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Trends and Patterns in the Changing College Curriculum

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WHAT has been happening to the curriculum in American colleges and universities is a concern not alone of deans and presidents. High school principals and advisers, whose programs are developed for better or worse with one eye on the next rung of the educational ladder, are naturally "curriculum-conscious." An increasing number of alumni are turning their attention beyond the sports page to innovations taking place in the courses of study of their alma maters and are moved either to cheer or to view with alarm.

Many of these patrons of higher education have not yet made up their minds about the soundness of current experimentation in the college and university curriculum. Several fairly detailed studies of present practices are available, the most recent of which is "General Education in the American College," Part II of the *Thirty-Eighth Yearbook of the National Society for the Study of Education.* To see current trends against the background of developments within the college curriculum of the last fifty years or more and to trace the shifting patterns into which some of the major innovations fall, as an aid to intelligent evaluation of specific changes, is the purpose of this article.

HISTORICAL FACTORS

An educational system can be understood only in relation to the social and cultural background out of which it rises and of which it is in large part an expression. The current situation in American higher education cannot be studied adequately without the perspective of two centuries of development. At least four strands of dominant influence have been interwoven to determine the present pattern.

Originally American colleges were distinctly *English* in character. In addition to drawing their charters and chief financial support from English sources, most of their instructors came from Oxford and Cambridge. The college system of English universities grew up under the influence of monastic life and ideals. In the seventeenth century the curriculum was still largely medieval in character. The tutorial method of instruction had been preserved. In spirit and purpose the college reflected the characteristic English emphasis on the molding of youth in the aristocratic tradition. Scholarship was subordinated to moral discipline. Students lived under the exacting regimen of the masters. Similarly, colonial colleges emphasized formal discipline and strictly regulated conduct rather than professional scholarship.

Shortly after 1750 new institutions of higher education came into existence with broader curricula and nonsectarian ends. There was a definite trend toward scientific and practical studies. The Revolution stimulated the establishment of institutions quite different from the traditional church college: secular in administration, giving free instruction, and preparing for professional service to the state. Moreover, there developed the ideal of a state university which would include all the schools and other agencies of culture in one unified organization. These trends clearly reflect the influence of *French* educational views, expressing the logical and secular spirit of the Enlightenment. Benjamin Franklin, John Adams, Thomas Jefferson, and other enthusiasts brought these new ideas to the young republic. Because of conditions peculiar to America, however, these French university ideals exerted little practical influence for a number of years after the turn of the century.

By 1800 *German* universities had come to differ markedly from the universities of England. They exalted professional studies leading toward

the doctorate rather than liberal culture. They stressed scholarship and research rather than general education or technical training. The German university professor was a learned specialist rather than a tutor. The stimulating intellectual atmosphere of Germany attracted a steady stream of American students. Reports on German education had a profound effect on the development of American education at all levels. Later in the nineteenth century the majority of university presidents were conscious advocates of German ideals of scholarship and university organization. A definite conflict developed between the university ideal and the ideal of the traditional college. It is said that leaders of the university party looked upon the existing American college as little better than a high-grade secondary school. The advocates of the college tradition, on the other hand, held that a preliminary general college education, with a strict regime, was essential before students could profit from the freedom of university education. Certain graduate centers developed, such as Johns Hopkins, where the university ideal was thoroughly established. For the most part, however, the American university became a compromise of divergent interests. In some cases ambitious colleges took on the name and purposes of a university without being equipped to carry on its functions effectively. Among the significant permanent innovations were the introduction of the elective system and the adoption of coeducation.

Although all these influences from abroad have left their mark on American higher education, the basic factors in the development of colleges and universities are to be found in the character of *American* society itself. The religious awakening of the early nineteenth century, coupled with the period of great western expansion, resulted in the multiplication of denominational colleges. In one decade alone immediately preceding the Civil War, ninety-two colleges were established. The Morrill Act of 1862 stimulated the development of state universities, particularly schools of agriculture. An expanding industrial society created new demands for engineers, scientists, and business leaders. A democratic tradition set no bounds to the acquiring of a university education. The principle of state support put higher education within the reach of the masses. Add to these trends the philosophy of John Dewey, stressing the relation of education to life, and one can readily see why Ameri-

can colleges differ radically from the scholastic, aristocratic institutions of England and the Continent. One can also understand the mechanization, the variety of pattern, and the utilitarian emphasis of much of American higher education. Among the critics of the "higher learning" in America today are those who look wistfully for a return to either the English or the German tradition. Others want to make the college and university even more responsive than they now are to the distinctive needs and viewpoints of the American scene.

THE NEW EMPHASIS ON GENERAL EDUCATION

One of the issues in higher education which has been debated in one form or another for many years is the relation between the cultural or general (liberal arts) emphasis on the one hand and the vocational or professional elements in education on the other. The pendulum seems to swing from one emphasis to another and a series of definite stages can be traced.

For centuries college was for the select few, both abroad and in America. Beyond the common elementary school went only those who were economically privileged or intellectually gifted. There was a separate educational ladder for the elite and one for the masses. This was definitely a class education; among both the ancient Greeks and the modern British it was an education for those who were free for leisurely pursuits. But at the same time, at least in America, it was a professional education; the college prepared men for the ministry, for literary callings, and for a few other chosen professions. It was a vocational training, although with a "cultural" content.

The victory of the advocates of a public school system led inevitably to opening the doors of the college and university to large numbers of students who were neither interested in nor qualified for the "learned" professions. American society needed technicians in industry, business, and agriculture and it was appropriate to the democratic tradition to train these specialists within the tax-supported school system rather than in separate technical schools. Moreover, new professions came rapidly into being and the requirements for professional training were pushed steadily upward. The apprenticeship system gave way to private training institutions; these soon developed into organized colleges and degree-

granting institutes. The curriculum of the university became sprawling rather than compact. Instead of a small, prescribed sequence of courses for all students, there was a haphazard collection of offerings which no student could take if he stayed in school for a lifetime. The small liberal arts college was sorely tempted to follow the lead of the larger universities. In the university the professional schools dominated and the liberal arts school became a minor appendage. Many a student could get his Bachelor's degree with scarcely a touch of the social sciences or philosophy or literary studies.

Although the trend toward specialization was particularly strong in the decade following the World War, in recent years there has been a definite reaction. It has long been pointed out that preparation for living is much broader and more fundamental than preparation for a vocation. A man is a father and a citizen as well as an engineer; he has access to almost unlimited resources of books and music as well as to technical journals. An increasing proportion of his week is likely to be spent off the job. As economic and political crises have multiplied, it becomes apparent that a democracy can survive only if its members, whatever their vocation, are informed about the basic processes of social change and alert enough to make up their minds in a welter of conflicting viewpoints. Besides, so great are technological and cultural changes that one can be adequately prepared for a profession only if he grasps general principles and broader relationships in addition to technical skills. The older type of vocational education tends to preserve the status quo. More than twenty years ago, John Dewey pointed to a danger "that education will perpetuate the older traditions for a select few, and effect its adjustment to the newer economic conditions more or less on the basis of acquiescence in the untransformed, unrationalized, and unsocialized phases of our defective industrial regime." Moreover, under the influence of Gestalt psychology, educators are saying that specific facts and skills take on meaning only in relation to a larger whole; instead of a mosaic, departmentalized accumulation of specific responses, the learner needs to develop a coherent structure of thought and an integrated pattern of behavior.

In light of these factors and others that might be mentioned, it is not surprising that the emphasis on professional education is being sharply

challenged. Frequently this reaction has taken the form of a sharp horizontal cleavage at varying stages of the educational ladder. The first two years of the college or university are often distinctly devoted to general education. There is a trend toward postponing entrance upon professional study until after the completion of work toward a Bachelor's degree. This is true not only of medical schools and theological seminaries, but of schools of social work and a few schools of education. To an increasing degree these graduate schools are saying that they do not favor a highly technical pre-professional education. Four-year undergraduate schools of education or engineering are including more and more non-professional elements in their curriculum. Recently the Regents' Inquiry in New York State has advocated that 70 per cent of the courses in state teachers colleges be devoted to liberal arts. One consequence of this development is the prolonging of the period of professional preparation. Many are saying that four years are not enough to combine the general and professional aspects of a well-rounded education. Several states have set five years of preparation beyond high school as a requirement for teachers in secondary schools; the trend in other states is in this direction.

But here again danger signals are being raised, lest the trend toward general education destroy some of the values of the older program of professional education. To make a sharp distinction between theory and practice is no service to either: on the one hand, the classroom approach may become unrealistic and "academic," because divorced from intimate contacts; on the other hand, there may be too little desire among practitioners for in-service study because of a feeling that they have completed their theoretical background. There is also danger that the professional school, assuming that the broad social background has been sufficiently developed in undergraduate years, may concentrate on purely technical aspects of the training and reinforce the narrowness of outlook which it started out to avoid. Furthermore, the normal development of student interests is likely to be checked if vocational concerns are arbitrarily ruled out of the early years of the college course. Granted that transient and superficial interests should not be permitted to determine the curriculum, all will agree that learning takes place best when present interests are capitalized. To insist that a student has a long way to go before he can start serious work upon his major professional interests

may kill the nerve of intellectual initiative. To the student the long road of general education may seem a meaningless detour. Much of the intellectual shallowness of the early years of college may probably be attributed to a type of general education which has often seemed remote from the serious concerns of life. There is a real danger that the "background" which is regarded as so important by educators may be so little related to the foreground of the student's present interests that it is promptly forgotten when examinations are over.

Many educators are therefore still in search of a satisfactory integration of general and professional education. Plato long ago asserted that it is the business of education to find out what a man is good for and then to train him for mastery in that field. Perhaps the trouble lies not with introducing professional elements too early into our college programs but in treating them too narrowly. The following viewpoint is likely to gain increasing assent from those who study carefully the problem of professional education:

> Specialization has been regarded as inevitably narrowing. This depends entirely upon the framework within which specialization is conducted. Direct preparation for an intelligently chosen life career, if accompanied by a recognition of the theoretical implications of that career in the life of our times, may be an exceedingly productive approach to a general education. There is little evidence from the study of the educational process or elsewhere to support the current widespread practice of framing the first two collegiate years to deal exclusively with general knowledge in the expectation that all specialized work could and should properly come at a later time. Neither would the reverse sequence, from exclusively specialized work to later concern with general knowledge, be justified. *So far as psychological study now seems to indicate, a better approach would provide for constant alternation of the two types of experience with periodic changes of emphasis upon one or the other as the individual matures.* Intelligent choice of an occupation and an opportunity to begin preparation for it when interest becomes alive are important elements in general education.[1]

THE SELECTION AND ORGANIZATION OF MATERIALS

Determining the content and organization of the curriculum of a modern college is a problem of the first magnitude. Within the vast

[1] Cottrell, Donald P. "The University and General Education." *The Social Frontier*, Vol. 5, p. 13, October, 1938.

range of human knowledge, contemporary and historical, what materials are most worth including within these four years of the educational ladder? How much of this material shall be required of all students? What is the most effective basis for organizing this complex body of knowledge? How inclusive shall the curriculum be and where shall the line between curricular and extracurricular be drawn? When one considers the difficulty of these problems, he can understand the tendency of college faculties to rely upon precedent rather than experiment, on the assumption that the old and tried way is the best way. On the other hand, during the last decade or two, the pressure of events has forced modifications in the undergraduate program, so that it is a rare college or university today that is not going through some process of curricular revision.

A frank appraisal of the growth of college curricula during the last fifty years indicates all too often no clearly defined principles governing the selection and organization of content. Under the impetus of rapid developments within the natural and social sciences there came strong pressure for the expansion of the curriculum. Departments vied with one another in multiplying the list of offerings in the catalogue. Subdivision of courses into more detailed and technical subject matter was the order of the day, with little attention to the total pattern and purpose of the curriculum. There was of course a degree of logical organization, following the time-honored principle of starting with the simple and leading to the complex. Usually this meant beginning with the more abstract and theoretical aspects of a field and leading gradually to practical application. In language study this was the common procedure. Even in the sciences, where empirical methods have brought notable results, it was usually thought necessary to learn general principles from books and lectures before the student was ready for experiment. In the social sciences one might have expected more direct contact with the world about us, but here also it has been assumed that one can grapple with pressing everyday problems only after a thorough study of principles. All too often the student who was not specializing in the field never got far enough to reach the realm of application. Ancient and medieval history must precede a study of the contemporary world; only in the later years of college, if at all, was a student likely to be brought up to date.

Two major criticisms can be made of a curriculum organized in this fashion. It reflects a centrifugal tendency, a diffuseness and a scattering of materials which make it difficult for the undergraduate to weave together a broad and well-integrated structure of knowledge. It is also ill-adapted to the great mass of students whose interests and abilities lie in the concrete and the functional rather than in the theoretical and the academic. At best it is a curriculum designed for the gifted specialist and the intellectual elite rather than for the rank and file of undergraduates who crowd our American colleges. In response to these criticisms one can note two important trends which are representative of a different principle of selecting and organizing the material for a curriculum.

Trend toward Coherence and Integration. It was a step toward greater coherence when the rather bewildering array of a score or more of departments appearing in college catalogues was consolidated into three or four broad fields of knowledge. Usually these were designated as the Natural Sciences, the Social Sciences, and the Humanities. Frequently the "Humanities" were divided into two fields, that of Literature and Philosophy and the Arts. Sometimes the Biological Sciences were separated from the Physical Sciences. All these divisions have their obvious limitations. Psychology and geography, for example, do not readily fit into any of these categories. We have come to see that the physical and social sciences are intrinsically related at many points. Nevertheless, as a rough and convenient guide, this classification of courses into "broad fields" has helped to introduce order into the picture of the college curriculum.

It was natural to move from this point into the development of a survey or orientation course in each of these broad fields. Several factors have combined to make this type of course a popular form of experimentation in recent years: a recognition of the interrelationship among many phases of a broad field which were previously treated separately, for example, sociology, economics, and government; a realization that it is valuable for a student to have an overview of a field of study before plunging into details; and at least a dim awareness that the problems of contemporary life should come early in a student's career as a motivation to more intensive and theoretical study. Furthermore, the new emphasis

on general education during the first years of college operated to provide introductory courses in all major fields to assure a broad foundation for later specialization.

Among these orientation courses at least three somewhat differing principles of organization can be distinguished. One, represented by the University of Chicago courses in the physical and biological sciences, may be designated as a *mosaic;* sections of subject matter that are deemed important are pieced together from various areas within the broad field with a very loose form of relationship. A second type of organization, illustrated by the general course in the social sciences at the University of Chicago, stresses *principles;* the attempt here is to use subject matter from a variety of areas to lead toward the development of major generalizations which may give a clue to understanding in this field. A third approach is the careful selection of typical problems, usually within the field of contemporary civilization, which will help the student define the major issues in a given area of experience and will indicate the lines along which further study may be carried on. The course, Man and Society, at Northwestern University, is an illustration. Needless to say, these three types are not mutually exclusive. Survey and orientation courses have been severely criticized as superficial and infeasible, but experiments along these lines continue with interesting results in a variety of institutions.[2]

Trend toward a Functional Organization. Perhaps the most valid criticism of the ordinary survey course is to the effect that it still reflects the assumption that at the center of the educational process is subject-matter-to-be-learned. Real integration, say these critics, does not take place by a reshuffling of subject matter. Integration basically is something that occurs within the experience of the student; it represents a reorganization of his experience in accordance with growing insight; it involves an essential interrelationship of intellectual, emotional, and volitional aspects of his experience. The ultimate test of true knowledge is whether it can function in appropriate life-situations. The college curriculum, therefore, must be organized with reference to basic and persistent problems of human living, such as maintaining physical and mental

[2] For an extensive review of this development, see *What About Survey Courses?*, B. Lamar Johnson, Editor. Henry Holt & Company, New York, 1937.

health, making satisfactory adjustments in family life, preparing for a vocation and gaining economic security, assuming responsibility as a citizen, developing the capacity for aesthetic appreciation, working out a system of guiding principles and values as a philosophy of life.

To organize a curriculum on this basis involves, at first thought, a radical departure; yet a number of colleges are moving in this direction, selecting materials in relation to "areas of living," "areas of experience," "persistent problems," or other similar designations. The most thoroughgoing experiments in this direction have been carried on in New College of Teachers College, Columbia University, and Central State Teachers College, Mount Pleasant, Michigan. Subject matter is still drawn from the customary fields of psychology, history, science, literature, and all the others; but the focus of attention is somewhat different and the form of organization is not conventional. Abundant use is still made of historical materials, but literature and history are interpreted in terms of human problems and insights which are significant for contemporary life. The mastery of technical skills is not neglected, but these "tools" are always to be seen in relation to the purposes for which they may be used. Books and laboratories are by no means underestimated, but direct contact is encouraged with activities and experiences outside the classroom as valuable resources for learning. How far it is possible effectively to organize a college curriculum on this basis no one knows, because experimentation is too young. Whether this focus on contemporary problems involves a neglect of the contributions of our classical heritage, as President Hutchins and the Essentialists fear, is debatable. Much depends on a liberal interpretation of "functioning" to include aesthetic appreciations and philosophic insights as well as practical applications. Probably all good teaching, under varying theories, has always had the quality of capturing the imagination and deepening the insight of youth, because the teacher has been able to touch life at a vital point. Subject matter in a teaching situation of this kind becomes secondary in importance; the mind and the will of the student are liberated for intelligent endeavor. Regardless of the external pattern of the curriculum, all will agree that continuous effort must be made to see that it is effective in guiding the growth of the student as well as in integrating his experience.

ADAPTATION TO STUDENT EXPERIENCE

It is apparent that the problem of the college curriculum consists not only in selecting materials and weaving them into a pattern, but in fitting the garment to the individual student. So long as the college ministered to a small and select few, there was little need of adaptation. The curriculum was the same for all. But the influx of students with varied interests, accompanied by a rapid multiplication of courses, soon created a dilemma for administrators. To require the same courses of all students, particularly in a state university with a growing number of technical and vocational curricula, was obviously impossible. The elective system, at first strenuously opposed, was almost universally accepted. But if there was such widely varying content in students' programs, on what basis could their academic achievement be compared? What should determine the requirements for a degree? The answer to this unique situation, typical of American ingenuity, was the point-credit system, whereby a student's program could be translated into terms of "units." Given these units and the grades attached to each course at the end of the semester, the administrator could carry out mathematical computations. For purposes of graduation or transfer the exact academic status of each student could be determined. When a student had accumulated enough of these tokens, perhaps sitting in courses time-clock fashion, he could pass his "credits" across the academic counter and be sure of his diploma.

That this has been an artificial and often mechanical method of determining a student's progress has long been recognized; but it was a convenient system and one that could be applied to mass education. The most devastating criticism of this standardized curriculum has come from the study of secondary and higher education made over a period of ten years by the Carnegie Foundation. It appears that a Bachelor's degree from an American college, when studied objectively from the standpoint of knowledge, means very little except that the student has spent four years in college without being dismissed for failure. There is no level of intellectual attainment that the graduate can be said with any certainty to have achieved. On a series of comprehensive tests 10 per cent of the several thousand seniors who took part in this study scored lower than the average high school senior. About 30 per cent did less well than

the average college sophomore. The measurement of educational progress in terms of an accumulation of credits was shown to be particularly unfair to the superior student who could, if given the opportunity, avoid the calendar lock step and enter upon advanced study long before his plodding colleagues. It has also often resulted in a dulling of the intellectual initiative of students, so that the instructor is in the unenviable position of prodding instead of guiding.

Trend toward Flexibility. For some years several American institutions, notably Harvard University and Swarthmore College, reflecting the influence of English universities, have been experimenting with the tutorial system, whereby students are given the opportunity of informal guidance in the pursuit of special fields of study. Honors courses are a variation of this plan, giving the student freedom from the usual routine for the purpose of study which is largely self-directed. But these plans ordinarily apply only to the gifted student in the later years of his college career and the expense involved seems to be beyond the reach of most colleges.

More recently the University of Chicago plan has attracted attention, because it provides for a certain flexibility even in the early years of college. The key to this plan is a series of comprehensive examinations in broad fields of knowledge, which a student can take whenever he is prepared. Work which usually takes two years may be completed by brilliant students in much less time. This is the type of fluid curriculum recommended by the Carnegie Foundation study, through which the student may swim at a pace appropriate to his capacities and purposes. "Customary procedure puts him to bed like a troublesome child by safely tucking him into fixed courses which he can neither hasten nor retard and from which there is no escape. . . . The crux of the entire process rests in the responsibility of each individual for recognizing and appropriating that which will best fit his need as he can be brought to see it."[3]

The radical feature of such a plan lies in measuring progress strictly on the basis of achievement rather than in terms of time spent in college or number of courses paid for and passed. It recognizes how widely indi-

[3] *The Student and His Knowledge*, Bulletin 29, The Carnegie Foundation, 1938, pp. 55, 57.

viduals differ in their capacities and interests. It lays great stress on objective tests and cumulative records; it puts all examinations in their true light as a process of self-revelation rather than as hurdles to be crossed by fair means or foul.

Several of the more boldly experimental colleges—for example, Sarah Lawrence, Bennington, Bard—in recent years have gone even farther in the direction of individualizing the curriculum. The number of required courses is reduced to a minimum. A program is mapped out carefully with each student on the basis of individual needs and interests. From the beginning of college a student is encouraged to explore special interests, with the recognition that the range of interests will broaden as one follows the ramifications of any field. A great deal of the student's time is spent in individual conferences or in seminars with small groups. Increasingly administrators in many colleges are coming to recognize that the *effective* curriculum is that part of the curriculum which comes to have meaning to each student, and that the only kind of curriculum which is educative in the long run is that which provides for a large measure of self-education.

One of the fundamental criticisms being raised in relation to this movement toward flexibility, however, has to do with the standards of measurement. The Carnegie Foundation study assumes that knowledge is of dominant importance in education and is the only phase of college education subject to measurement. It is true that the term "knowledge" as here used is much more fundamental than mere items of information: "Education consists in thinking, in the perception of meanings and relationships among ideas which are true and important." Nevertheless, those who are interested in a functional curriculum are not satisfied with comprehensive tests of knowledge; they are looking for ways of measuring which will be more inclusive. Having rejected the inadequate measures of the point-and-credit system, it is their task to develop standards that will be in harmony with their educational goals, yet reasonably objective. A serious effort is being made to set up standards in terms of understandings and abilities necessary for the solution of basic problems of living. In addition to paper-and-pencil tests in the classroom, evidence is constantly gathered of the way in which students respond in facing actual problems in college relationships and in the community. This plan

involves a carefully worked out guidance program, including an analysis of the experiences which are most important at any stage of the student's growth and a continuous effort on the part of the student to judge his own needs in relation to a long-view plan. According to this viewpoint, the curriculum and the guidance program are inseparably related.[4]

RELATION OF CURRICULUM TO SOCIAL RESPONSIBILITY

Detachment from society is part of the liberal arts tradition. The founders of these colleges in America deliberately chose sites which would be removed from the distractions of the city. For these four years students were practically free from any social responsibility. At best the graduate entered the practical world with a supply of untested theories; at worst he came out as a "playboy" lacking in social concern. This tradition accounts partly for the oft-voiced criticism that American undergraduates are particularly irresponsible, frivolous, unmoved by great issues. It explains also the fervor with which students usually entered into extracurricular activities, where they could participate with responsibility in the management of their own affairs.

The World War helped to shake American undergraduates out of their provincialism. The depression, making the future of the graduate less certain, forced thinking along economic and political lines. The more recent revivals of nationalism and the imminence of world conflict have added realism to the curriculum. It is becoming increasingly difficult for a student to go through college without being introduced to the great social issues of the day.

A few colleges are going farther than the discussion of social problems; they are making provision for students to get firsthand contact with the industrial and political institutions of modern society. In rare cases, as at Antioch College, this involves an alternation of work and study. Frequently, as at Bennington, it means the use of summer vacations or winter reading periods to engage in industrial inquiries or to work in social service agencies. Here and there departments of sociology and economics are conducting field studies of the immediate social en-

[4] For an extended description of a program illustrating this approach, see Teachers College Bulletin, January, 1937, *New College for the Education of Teachers*, pp. 7-26, 42-51.

vironment. A few institutions go so far as to guide students in a survey of the basic needs and resources of the community and to encourage faculty members and advanced students to participate in educational and political activity off the campus. A noteworthy example is a study by a group of Reed College students of the water and electric-power problem of the Columbia River Valley in relation to human needs. The traditional barriers between "town" and "gown" are being broken down.

It has slowly dawned upon administrators that the college community itself offers invaluable experience for training in social responsibility. The college may be conceived as a partnership of faculty and students which is a laboratory for applying principles of democratic citizenship. On almost every campus there are conditions involving injustice, discrimination, intrigue, undemocratic procedures of one kind or another. In a few institutions students are being invited to take some part in the making of important decisions about the curriculum and administrative policies, as well as about the conduct of social affairs and the regulation of dormitory life. An outstanding experiment in student participation in college government is being carried on at Talladega College.[5]

Some colleges are resisting this trend toward social participation, fearing that such activity will seriously detract from academic achievement and maintaining that students are too immature to make significant contributions to social reconstruction. There are doubtless pitfalls to be avoided, but it is difficult to see how any college that is seeking vitality in its curriculum can fail to include a series of graded experiences in participation in the life of the college community and the larger society.

To some of us this question of *social orientation* is of central significance in all movements toward curricular revision. Whatever the relationship of general to professional aspects of education, whatever the scheme of organizing materials and experiences, whatever the plan for meeting the needs of individual students, perhaps the acid test of any college curriculum in the American tradition is this: Do graduates come out with a vision of what society might be, tempered by an understanding of things as they are and implemented by a commitment to some specific undertaking wherein each can effectively take hold?

[5] Gallagher, Buell G. *American Caste and the Negro College*, pp. 409-415. Columbia University Press, New York, 1938.

Early Progress in Reading: Not Reading Readiness*

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THE traditional view of reading is so uncritical and so generally taken for granted that it makes discussion of the beginning stages of reading very difficult unless care is taken to make clear a sound and realistic approach to the problem. The traditional assumption which accounts for this difficulty is that reading means only the reading of connected discourse from books, charts, or perhaps the blackboard or prepared paper materials. All preceding stages or steps are considered to be developing "readiness" for reading. That is, during the period before entering grade one children develop in mental and other abilities and interests which get them "ready" to learn to read. The implication is that these "reading readiness" stages are fundamentally different from the steps in learning to read. A sounder and more realistic view is that these two unwisely separated periods of development are actually stages in the same basic process of learning to read. This view, however, points

*During the past five years an experimental study of Reading Readiness and Progress in Kindergarten and Primary Grades has been carried on in the Horace Mann School by Frank T. Wilson and Cecile White Flemming, Director of Individual Development and Guidance. The study has been made possible by the interested support of R. G. Reynolds, Principal of the Horace Mann School, and Ina C. Sartorius, Assistant Principal of the Elementary School, and by the participation of Agnes Burke, Teacher of First Grade, and the co-operation of other teachers of the Kindergarten and primary grades in the School. The points of view emphasized in this article have been both reinforced and clarified by the results obtained in this study and by the evidences revealed of children's interests and learnings in beginning reading.

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out the existence and importance of early stages in learning to read that long precede the reading of continuous discourse.

TWO CONCEPTIONS OF TEACHING READING

Before discussing this truer conception of beginning reading, a better understanding is necessary of the consequences of holding the less true traditional view. When one thinks of reading as beginning with book reading there is at once a major emphasis placed upon the mechanics of reading. The difficulty children will have will be on that phase, not primarily on comprehending meanings. In fact, special care will be taken by teachers to use simple child-life materials, partly in order that the emphasis may be placed upon mastering the mechanics of reading.

There are two distinct procedures for teaching reading from the point of view that reading really means book reading. The older and long discredited method is to have children learn letters and sounds, break up new words into their letter components, and rebuild the word from these letter elements. This method is undesirable because it is extremely wasteful of time and also because it interferes with the development of the quick and continuous word or thought unit reading characteristic of good readers.

The other and newer method, which also is based on the questionable view that learning to read means learning to read continuous discourse, emphasizes idea units as the basic perceptual units in the mechanics of reading. These idea units are admittedly usually words, but the isolation of words is to be avoided and the larger idea or thought units of phrases, short sentences, and other word groups are to be kept in the perceptual focus of attention by the children. The recognition of these words either separately or in groups is to be made by their configuration as wholes and by context, emphatically and definitely *not* by attention to the letters that compose them. This means of recognition is furthered by limiting reading to highly interesting material. Such selection of material, say the proponents of this method, will insure content closely related to children's interests and activities. Thus their pleasure in and desire for reading will carry them along through their endeavors to learn to read.

The objections to this newer procedure of teaching reading by thought units are chiefly on the side of learning the mechanics of reading.

The insistence upon having reading material highly interesting to children is, as a general principle, entirely consistent with current interpretation of the psychological processes in effective learning. But the assumptions regarding the perception of words as wholes do not have entire support from either psychological studies[1] or teaching experience.[2] They are especially questionable from the point of view of the genetic development of reading. This aspect of the matter will now be discussed.

EARLY STAGES IN LEARNING TO READ

It would be quite surprising if children, in the present-day reading world in which they grow up, did not show some awareness of the reading activities of older people. Common as well as carefully directed observation shows that children do begin to notice reading activities and situations at a very early age. Opening books, turning pages, and gazing at the pages are "reading" activities at this stage. In a short time words become related to some of the pictures. A two-year-old will not only do all these things, but he will call for a certain picture in a certain book, turn to it and name it with undeviating accuracy. In broad outlines this is reading, that is, getting meanings from recorded symbols. Identifying and handling the book and communicating to someone the idea given on a certain page is exactly what an adult frequently does in his reading activities. To belittle such activities as baby-like and in detail different from an adult's reading is to deny baby beginnings, which child psychology today recognizes as lying at the basis of practically every ability and characteristic of adults.

If these simple beginnings were all there was to the pre-school stages in learning to read they might be considered unimportant. But they grow and broaden out into other beginnings more directly leading to reading of continuous discourse. Soon picture books are bought for the young child and elders read the legends accompanying them, tell stories about the pictures, teach rhymes and jingles. In turn the two- and three-year-old prattles these words and stories. Alphabet blocks and alphabet books

[1] Wilson, Frank T. and Flemming, Cecile White. "Letter Consciousness of Beginners in Reading." *Journal of Genetic Psychology*, Vol. 53, Second Half, pp. 273-285, December, 1938.

[2] Wilson, Frank T. and Burke, Agnes. "Reading Readiness in a Progressive School." *Teachers College Record*, Vol. 38, pp. 565-580, April, 1937.

are introduced and only the parent overwhelmed by teacher authority refrains from naming the letters, pointing them out, turning them right side up, and, as informal occasions arise, "drilling" the child in saying their names correctly. Many babies at this stage learn to hold most books and pictures right side up and to start turning pages from the beginning of the book. The word *book* is naturally learned in connection with these experiences with books, and becomes one of the common words of children's home vocabularies. One study, for example, found it in the second hundred of the commonest words used by pre-school children in their homes.[3] Much learning—a good deal of it below the threshold of recognition or recall—takes place during this long stage of learning the forms and names of the symbols which are the basic and indispensable elements of reading.

Psychologically this stage is, or may well be made, of the utmost importance. Everything but traditional pedagogy argues for it. The child is strongly motivated to learn, is in ideal rapport with his parent-teacher, occasions for learning arise naturally, are experienced with satisfactions of the deepest kind, and countless repetitions in similar and varied settings occur in child-life experiences free from the deadening effects of rigid schoolroom situations, with their invidious comparisons, competitive tensions, fears of ridicule and failure, and the like. Because the learnings are genuine life experiences of the child, they are inescapably integrated around the child himself and thus establish significant and usable associations with other learnings—an aspect of learning usually not adequately provided in traditional school situations.

One other side of learning to read in these beginning stages in these natural home-life experiences of the child is that the learning proceeds not according to a schedule in a syllabus, but at the child's own rate and in directions which naturally develop. This does not necessarily mean undirected learning. Probably better growth will take place if guidance of the learning follows a plan rather than if every chance factor in experience is allowed to have its uncontrolled effects. Some suggestions regarding such planning will be made later.

[3] Child Study Committee of the International Kindergarten Union. *A Study of the Vocabulary of Children before Entering the First Grade.* International Kindergarten Union, Washington, D. C., 1928.

During these early stages in beginning to read many children learn to recite or sing the alphabet and to "count," or rather to say the number series up to 10, 20, or further. (As one five-year-old put it, "I can count up to a million.") They also learn to recognize the number forms. Studies of some young children[4] seem to indicate that of these abilities counting is first acquired, accompanied or closely followed by reciting parts of the alphabet and then by printing one's own given name and writing numbers. The naming of letter forms takes somewhat longer to learn, perhaps because of the number and variety of letters. Capitals usually are acquired earlier than the small letter forms, probably because of their more common use on blocks and in alphabet books. Writing or printing letters, usually the capitals, seems to begin some time after many letter names are known, and generally starts with making the letters of the first name. The development of this ability is, naturally enough, quite slow for some years, and is complicated by the difficulties of motor performance and confusions of letter form. Reversals in making symbols are quite common at this stage of learning, if children are not given careful help when they begin to make some of the letters and numbers, for example, b, d, 2, 3, etc.

Children in many homes do not complete the learning of these things before entering school. In fact, there may seem to be little or no ability at all present in these learnings in many grade one entrants. Probably in some cases this is because the learning had never been brought up to the threshold of recall or recognition. It may also in some cases have been such chance learning that errors and confusions interfered with mastery. In the study of children referred to above, it was found that many children had made much progress in these abilities before they entered grade one. The fact that children in better privileged homes tend to develop abilities to a greater extent than do children from less privileged homes seems to be explainable in the provisions of pre-school reading materials and the help given with these materials by parents or governesses in the former type of home. But the abilities are not limited to children from privileged homes. Many children from so-called average or inferior homes who have been studied at the pre-school level have shown some of these abilities. Their parents or older brothers and sisters had, in

[4] Unpublished data on early reading progress of pre-school children. Frank T. Wilson.

all probability, helped them to make progress in these early stages of reading.

The studies of children in these beginning stages of reading have also shown that there is a close relationship between their abilities with letters and their progress in reading during the first grade, when the latter is measured in terms of either word recognition or paragraph reading.[5] This relationship is much closer than that between reading and other abilities, such as information, vocabulary, and the like, or even mental ability itself as measured by mental age or intelligence quotient. Careful analysis of the studies indicates that the relationship is explainable in considerable degree by the fact that the children used their abilities with letters as means for reading words and sentences. That is, it was found that those who had the best abilities with letters tended to use letters as helps in reading the idea units expressed by the words. This ability to use letters in reading words is very different from knowing the names and the sounds of letters without knowing how to use them to get the larger word units. It is also probable that the development of this functional ability to use letters as reading cues proceeds very slowly, and is not achieved by drilling children on the alphabet or phonetic combinations. Some children will learn to use letters much more quickly than others, but for many children the progress is and should be slow during preschool, kindergarten, and even the first two or three school years.

SKILL IN TEACHER GUIDANCE

These facts of development of interests and abilities in reading during early childhood and their close relationship to progress in reading during later childhood suggest important leads for the teacher in her guidance of children's further development in reading ability when they enter kindergarten or the primary school. First, young children may have, or through the guidance based upon their natural interests, they may soon have, a favorable set toward further progress in reading. By nature this set, unless unfavorably affected by neglect or unwise guidance, is characterized by wanting to read, the desires being, in general terms, desires

[5] Wilson, Frank T. and Flemming, Cecile White. "Correlations of Reading Progress with Other Abilities and Traits in Grade I." *The Journal of Genetic Psychology*, Vol. 53, pp. 33-52, September, 1938.

for enrichment of experience. Enrichment includes both acquiring information and increasing enjoyment. For years before entering school, the first grader has been progressing in reading in both these ways. His picture books, story hours, jingles and rhymes have built up a broad, deep, and wide complex of attitudes and habits related to an appraisal of reading in these terms of enjoyment and usefulness. Unfortunately, the reading outcome of these early stages may be dislike for and disinterest in further reading experiences as well as the development of favorable attitudes. This unfavorable set may come about because of indifference, awkwardness in handling experiences, or overanxious forcing of reading on the part of parents or others.

Skill in teacher guidance adheres to important underlying principles. First and foremost, the natural set of children toward reading must not be spoiled by tedious, unprofitable, disagreeable reading experiences. Reading must enrich children's experiences, either by contributing understanding and knowledge that is interesting to them or by adding to enjoyment.

In such a situation help should be given in the mechanics of reading. Indeed, if the desires to read a story, a sentence, or even a word are indubitably motivated by felt needs or enjoyment, children will want to master the mechanics that will help them read it. This approach to mechanics is, obviously, far, far removed from the drill techniques commonly found in beginning reading practices. It is, first, opportunistic, because it seizes opportunities in which the child wants first of all to read a certain something. Second, it is functional, because it is learning the mechanics of reading for the purpose of using the new ability to read something felt at the moment to be very worth while. It is, in the third place, despite its patness to the occasion, planned and selected guidance. Not every letter ability possible at the time is used to help the child read. The skillful teacher makes the selection best adapted to the growing needs of the particular child she is trying to help.

This attention to the mechanics of reading at moments when the mechanics will function in reading what is purposed by the child, is consistent with the recognized fact that young children have short ability spans. Attention span, memory span, muscle span are all characteristically momentary spans in young children. Lines and lines of hard reading

material are too much for young minds. A word or a letter is much more appropriate. The eye of the school child is an undeveloped eye,[6] and that of the pre-school child still more so. His eye muscles are delicate and may easily be strained or damaged by careful efforts to follow lines of print, however large the type. Much, much better is the momentary fixation of the eye on a word or two, or in the very earliest stages, on one letter or number, or a part of a letter or number.

When first trying to write, most children put forth a very great deal of muscular effort, squeezing the pencil, straining posture muscles, screwing up the face, and giving excruciatingly careful eye attention to what they are trying to do. Therefore, to have them begin writing by copying sentences or lines or rows of words is far too great a tax on muscles. The momentary fixation of the eye and the muscular effort of arm, hand, etc., in writing a letter or two, during a long stage of simple and easy beginning writing, is preferable. When the complicated processes of muscle co-ordination and memory of form have been well mastered after this long beginning period of writing letters or short words, it will not be so difficult to write a sequence of letters and words.

Another psychological principle will be found to operate in learning experiences in which short spans of attention are used in situations that are of high interest to the child. This is the principle of intensity. Wherever the learning experience is an intense one, there tends to be deeper impression and presumably more durable and useful learning. As a consequence it will not be necessary to have so many repetitions to establish the learned experience in one's repertory of skills or knowledge. Thus intensive drills obviate the need for extensive ones.

LEARNING BY DOING

Another principle underlying the functional learning of reading is the principle of management of the learning by the learner, in contrast to following somewhat blindly and passively the directions of a teacher. In the former and preferable way the learner is active, aggressive, self-reliant, and learns by doing in the best sense. It is creative rather than merely reproductive learning.

[6] Terman, Lewis M. and Almack, John C. *The Hygiene of the School Child*, p. 271. Houghton Mifflin Company, Boston, 1929.

There is also the principle of good integration underlying the methods of functional learning. Integration is real in this kind of learning because the learning is in the child's own active experiences. The child, not a section of subject matter, is the center around which experiences are organized. This integration is real because it is organization of learning for present use, not for storage in compartments for supposed future use. It therefore fits into the equipment of skills and knowledge which the child keeps close at hand for the purpose of exploring and enjoying the everyday life about him.

Finally, this sort of learning is in many important ways predominantly social. The usefulness of reading in natural home or school group experiences is in connection with other individuals and especially in connection with what the group is doing. This social nature of the experiences gives them the fullest meanings and most complete usefulness they could have.

Concretely, all this means guiding children in their early school years so that they will meet many reading situations in their active natural experiences and be aware of and interested in them. There will be such situations as reading names and other words, letters, and numbers; writing words, letters, and numbers; spelling words children want to use, such as labels on objects, cards, or pictures they have made; reading the daily program, notices, and other things on the board; and the like. Some children will learn to read books very soon, and will read to the class. The teacher and perhaps others will read to the children a great deal for the main purpose of enjoyment.

Some of the outcomes of learning to read in the ways described above are worth careful note. First, and perhaps most important, children will experience success in reading rather than failure. This is because the attempted achievements are kept in close relation to known abilities, and also because the motive to do the reading is so impelling that the children try resource after resource until they do succeed, and because the teacher by suggestion or direct answer sees to it that they do succeed.

Another reading outcome from this method of progressing in learning to read is enjoyment in reading rather than dislike or "hating" to read, which so surprisingly often is the sad and tragic case among young children.

In the third place, the child develops the attitude that reading is a useful ability to have, that what he reads is not meaningless prattle, but meaningful material that enriches life's experiences with understanding of things that are worth knowing about, and with enjoyments fuller and more delightful than many of life's firsthand experiences.

There seems finally to be a possible administrative outcome. Perhaps the shocking proportions of non-readers or sub-grade readers reported found in the primary and intermediate grades will, by employing the more natural and functional ways of learning to read suggested in this article, be greatly reduced, so that remedial reading will be a historical rather than a pressing present teaching problem. Why should teaching methods and/or administrative practices be followed, which produce reading problems for 15, 25, or 30 per cent of children in grades one to three,[7] and, still later, anguish for high school and college students, teachers, and administrators?

[7] Witty, Paul A. and Kopel, David. "Preventing Reading Disability: The Reading Readiness Factor." *Educational Administration and Supervision*, Vol. 22, pp. 401-418, September, 1936.

The Quality of School Experience Appropriate to a Democracy*

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THERE are many qualities which democracy might well demand as consistent with its character, certainly more than can be treated within the scope of this paper. Three of these, however, seem to be of outstanding importance. The democratic school should be devoted to a search for truth. It should foster a respect for persons. And it should engender loyal devotion to the democratic process and to the social community of which the pupils are present members and in which they will later on be expected to play the role of effective citizens.

A SEARCH FOR TRUTH

As for the first quality named, the intellectual pattern of the democratic school should be one of truth-seeking and of problem-solving. Its program should exhibit a definite intention of aiding children to learn how to size up situations and to come to conclusions on the basis of facts. Such procedure falls into line with the democratic process, according to which the people are called upon to make decisions from time to time on public issues. Through the agencies of the press, of public assembly, and of the radio the citizens are informed on questions about which they must make up their minds and cast their vote. Some of the fundamental freedoms which are guaranteed in the Bill of Rights were put there to provide for the full and free dissemination of facts and to aid the citizen in the process of thinking and problem-solving in the public sphere. Certainly, then, the dominant intellectual quality of the school experience in a democracy should be one of truth-seeking, problem-solving, and thinking.

*A paper read at the meeting of the National Society of College Teachers of Education, February 28, 1939.

School instruction in a democratic society should not be an agency for the inculcation of unthinking acceptance of a party policy or of an established tradition. It should not be used for the glorification of any party leader or for the strengthening of any economic interest. It should not serve as a vehicle of the party in power, using its advantages of political control to gain favorable acceptance of its policies in the minds of the young.

It has long been recognized in the literature of American education that mechanical learning will not serve the ends of democracy. Information to be useful must be arranged in thought patterns. The learning process must be a thinking process. It should result in attitudes of open-mindedness and of judgment suspended until the facts are in. This demand originated when practically all school experience was organized within the rather rigid form of subjects, and insisted that within these various areas of experience lines of meaning should be established. The more recent and certainly the contemporary emphasis upon activities which cut across traditional subject matter lines makes no less a demand that the thinking pattern shall be a fundamental characteristic of school experience. Indeed, the insistence upon the organization of that experience around points of current interest and significance is largely based upon the conviction that only in dealing with such matters will the fullest opportunity be provided for the development and application of meaning. To approach current problems, which are the concern of the adult world and the subject of extended discussion in the press and over the air, is thought to be the best possible means of developing the intellectual attitudes which are most serviceable in the life processes of a democratic community. For the past hundred years the theory of American education has recognized in mechanical, memoriter, meaningless mastery of book assignments the real enemy of good learning, and has recognized thoughtful learning as a quality most to be desired.

In spite of the unanimity of educational theorists, however, on the desirability of thinking as a prime characteristic of the learning process of the school, the old enemy remains deeply and securely intrenched—which lends support to Spinoza's aphorism that all things excellent are as difficult as they are rare. Getting children to think is conditioned by many unfavorable factors. First of all are those of the immaturity of the learner

and the relative rarity of active, inventive—in short—of thinking minds among the pupils in the schools. The objective is further handicapped by the fact that many of the teachers (I shall not venture a more specific quantitative term) are ill-qualified for the high and difficult task of assisting in the development of thoughtful procedures except on elementary levels and in very limited fields. The case becomes even more difficult when current issues are the materials within which or upon which the thinking process is to be exerted. Here the prejudices of home, of economic condition, of class loyalties, and party platforms introduce a condition of previous commitment and of emotional tension which makes difficult the pursuit of impartial truth. Indeed, there are many thoughtful students of education today who insist that schools should not concern themselves with the study of current issues which are the subject of partisan conflict and that impartial consideration of such issues is impossible. The question as to whether the schools can or ought to try to change the social order is very much alive.

It is said that in dealing with controversial issues it is impossible to secure impartial presentation. The teacher inevitably will have a point of view which will influence the selection or the emphasis given to the data presented. The result will be a coloring, perhaps unconscious, of the issue, and a decision on the basis of some prejudice or viewpoint which is individual with the instructor and which may not represent the decision which someone else equally well informed would come to. Personally I am convinced that complete impartiality on the part of an instructor is not likely to be arrived at. But this fact does not seem to shut out the desirability of dealing with controversial material in a democratic school system. I would go so far as to say that complete impartiality in the teacher is not only improbable but is undesirable. Absolute intellectual and emotional detachment on the part of the teacher would make for bad teaching. The facts are not likely to be presented in living relationships except in terms of a solution which is at least tentatively suggested as desirable or sound. Moreover, it should be possible for a teacher to present fairly the interpretation of facts which runs against his own and introduce the pupil to the data upon which that contrary decision has been made. Undue partisanship of the teacher will have its immediate check in the unfavorable response of patrons. In the interest of vitality

of instruction, let us give the teacher the right to an opinion of his own and place upon him the responsibility of being judicial and moderate in his expressions and of maintaining friendly relations with the taxpayers and citizens of the community which he serves.

The weakness of our schools, from the standpoint of their function of preparing thoughtful, intelligent citizens, is not that there are too many teachers whose social views are in conflict with those of the rank and file of the patrons, but that there are not enough of them. Democracy must find a way to protect and foster intelligent and socially sensitive criticism of the *status quo* and to provide for constructive suggestions regarding the improvement of our community life.

A RESPECT FOR PERSONS

A second important quality which should be found in the schools of a democracy is respect for persons. A fuller meaning of this phrase is suggested by the word "fraternity" as used in the motto of the French Revolution. Perhaps an even more comprehensive meaning would be given by the phrase "a sense of community," which would represent the interdependency of various economic, racial, and social groups within the nation as a whole—which would suggest the significance of each individual's contribution to the common good, as well as the responsibility of the community to reward the individual for the social contribution which he makes. In this era of war among the "isms" and of racial and party hatred, it is natural that we should think immediately of the problem faced by a democracy such as ours in which there are great minority groups that are in some cases only ill at ease, but in others tragically apprehensive regarding their positions in the community. It is not enough that our schools should refrain from fanning the fires of intolerance against any minority. Our schools have a positive mandate dictated by the meaning of democracy to do all in their power to discover ways and means of creating within the pupils sympathetic appreciation and understanding of these minority groups, to eliminate the contemptuous gesture or word as applied to them, and to develop constructive programs for their easy and natural assimilation into the American community.

While the problems connected with minority racial and national groups in this country are immediate and spectacular, they do not ex-

haust the significance of the demand for an enlarged and more vivid sense of community in our democratic state. There is with us perennially the failure of one economic or financial section of our country to appreciate the contribution and the needs of others. The basic "goods" which agriculture provides for our common life are frequently ignored by the urban population with its concentration upon the problems of business and labor. The farmer, on the other hand, is all too likely to stand within his embattled furrows, without appreciation and understanding of problems connected with buying the things which he produces as they are faced by the worker in the city. I would even go so far as to say that it is not unimportant that the farmer, the industrial worker, and the ultimate consumer should have a sympathetic understanding of the problem which the business man faces in attempting to meet his payroll every Saturday. The school as a public institution has responsibility with reference to the welfare of the entire community. Its interest should be the interest of the entire community. One of its fundamental objectives should be to develop among its students a sense of the interdependencies of our economic life and an appreciation of the contributions made to the common good by all geographical sections, by all productive groups, and by all individuals who contribute their labor.

Closely related to this need of sensing the interdependence within the national community is the question of new types of social service which the government ought to undertake in the interest of the citizens. This era of urban trend, of technological advance, of factory production, of shorter working day, and early retirement of workers from active service, to name only a few of the characteristics of our times, has created human problems which call for new solutions. Our public schools will not be doing their full duty unless they undertake to make pupils aware of this new and difficult social situation in which we live and to engender cooperative attitudes which will mean half the victory in the solution of our problems.

In a narrower sense of the phrase "respect for persons," there are also some clear implications for educational practice. We must speed our efforts at curriculum adjustment to meet the needs and to serve the abilities and interests of all children, of whatever intellectual quality and of whatever practical ability and bent. Moreover, if our professions of

community building are to be sincere and effective, there must be created in the school a sense of the worth of individuals for what they can do and can contribute. The school environment should not be such as luxuriantly to create feelings of inferiority in the pupils and a bitter sense of failure and defeat. On the side of its management the school which will best serve a democracy is one which is organized as a working community, the procedures of which are determined by its own nature and accepted by its members.

It should also be sensed that the democratic school community should be one in which the rights and persons of teachers are respected equally with the rights and persons of pupils. It is not good administration when a school or a college executive acts upon the presumption that the teachers are his "hired hands." If the spirit of democratic co-operation is to flourish within an institution, that spirit must go all the way to the top. If teachers are to be expected to consider and utilize the abilities, the interests, and the civic qualities of pupils in the school, it is essential that those same qualities as the teachers possess them should be recognized and utilized by the administration.

A DEVOTION TO THE PRACTICES OF DEMOCRACY

The third position, and the last, which I should like to propose, is that the schools of a democracy should create in the pupils a devotion to the political and social practices of democracy. It is perhaps a little strange that in setting forth this proposition I am introducing a controversial issue. To be sure in Russia today there would be no question but that the schools should inculcate the principles of Marxian socialism. In Germany today there is no hesitation in turning the schools of the country into a most effective agency for creating Nazi partisans and worshipers of Adolf Hitler. But in our own country there seems to be an assumption that to go all out for democracy would be undemocratic.

Under the guarantees of our Bill of Rights any citizen may advocate the overthrow of democracy. He may propose the substitution of a fascist dictatorship or of a proletarian autocracy. Therefore, say some, it is not logical that the schools of a democracy should be committed in advance to the superiority of its own system of social administration. They should be impartial. They should adopt the problem-solving at-

titude. They should admit as a possibility the hypothesis that the United States might be a better and a happier country if the Bill of Rights were abolished and a dictatorship established. They should not advocate and support too wholeheartedly the superiority of democratic institutions because in so doing they would be indulging in a process of "indoctrination."

There is a story told of a medieval scholar who put a pretty puzzle up to his contemporaries. A donkey, he said, is standing at a mathematically equal distance from two equally desirable bundles of hay. In the absence of any advantage which would favor the donkey's moving either to the right or to the left to reach either bundle of hay, would it not stand still and starve to death? It is to be assumed that the donkey, being neither a mathematician nor a philosopher, would find a way to his feed.

Does the force of logic compel us to keep our schools indecisive in this matter of inculcating devotion on the part of pupils to the democratic way of life? Many among us would say that if it did, so much the worse for logic. They would disregard fine-drawn dialectic for what seems to be the obvious dictate of social necessity. However, even in terms of logic, the way to an enthusiastic and decisive support of democracy for our schools does not seem to be denied.

Our preference for democracy does not come as a purely intellectual process of problem solving, although undoubtedly the presentation to consciousness of the conditions of existence under autocracies as compared with those of a democracy is involved in the decision. Rather do we prefer democracy for ourselves and our children because we like better the realities of the democratic way of life. We favor a government in which public policy is based on the widest possible consultation of the public will. We demand the full and free operation of those conditions which foster the dissemination of facts and which lead to as intelligent and voluntary choices of the people as are possible. We favor the development of individuals to their fullest potentialties. We desire the broadest possible spread and the highest possible level of welfare and security and of enjoyment of the goods of life for all our citizens. We work for the elimination of divisive prejudices and hates and for the development of understanding and good will among all our citizens. We

believe that nations may live and work together in co-operative ways and that war as an instrument of policy is self-defeating in the long run and may ultimately pass out of the international picture. We believe in peace and strive for peace in face of a world that has gone mad with the spirit of war. Such, by and large, are the values which our nation lives by and for. Being for those values, we are for democracy as the form of social organization which embodies and fosters them.

If we are for those values, why should we hesitate to place them in the forefront of the purposes and objectives of instruction? We do not hesitate to pass on to children the most authoritative scientific knowledge of our times. We do not apologize for giving them the most authentic picture of the past which we can discover. We do not hold back when it is a matter of equipping them with such habits of conduct as will make for their easy adjustment with their fellows. And why should we hesitate to represent to them our profound conviction that the best values of social existence are those which are bound up with the ideal and the practice of democracy?

There is probably justification for raising the question, now and again, as to whether democracy can and will survive in the United States, particularly so if such examination of our common life makes us aware of the tendencies and practices which are inimical to democracy and which need to be corrected if democracy is to live on. But the quality which should be dominant in our schools is not one of fearful doubt in this matter, but one of devotion to the values of the democratic form of social existence and of determination to make those values prevail more richly and more extensively.

There is every reason to hold that the schools of a democracy should inculcate the same devotion to the values of the democratic way of life as authoritarian states are doing for the systems which they favor. And by that is not meant partisan and chauvinistic adherence to a label, but deep-seated appreciation of the values of democracy and enlistment in the long struggle to make those values ever more and more a reality in American life. In making such a commitment for our public schools we are embodying in their program the highest social values which we, as aspiring, stumbling human beings, know. To do less would show us recreant to our opportunity and our duty.

The Map in Modern Education

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NOWHERE in the entire educative process has there been greater development than in the use of visual and auditory materials. The change is clearly revealed in the following quotations. In 1826, Willetts stated in the preface to his textbook: "It has not been deemed expedient to sprinkle the book with pictures, from a conviction that they serve to divert the attention of the pupil rather than to inform his mind or improve his taste." [1] One hundred and five years later, Abrams pointed out that "In all uses of visual aids the aim should be to secure correct and definite mental images. . . . Pictures may be used very effectively to give meaning to language symbols." [2] This development has been occasioned primarily by evolution in educational philosophy, advancement in educational psychology, and change in the character of school population.

Some have regarded the increased use of visual materials and procedures as a deterioration of methodology, an attempt to render learning painless or "sugar-coated." Even were there any measure of truth in this indictment, it must be pointed out that education is no longer very generally regarded as a punitive expedition into the personality for the purpose of helping the spiritual man to overcome his physical limitations. Anything which facilitates or speeds the learning process is, therefore, not to be eschewed but to be embraced. Education is compelled to be more concerned with the end results to be attained in dealing with what is an essentially scientific subject than with the moral and disciplinary channels leading to those end results. Actually, the use of visual materials

[1] Willetts, Jacob. *New and Improved School Geography*. Poughkeepsie, New York, 1826.

[2] Abrams, A. W. "Visual Instruction in Teaching Geography." *Journal of Geography*, Vol. 30, p. 146, April, 1931.

means more and harder, albeit a somewhat different kind of work for both teacher and pupil than does traditional pedagogy. Even though visual materials did represent the less arduous way, their use is justifiable on the ground that their concreteness makes them valid instruments for increasing the scientific element in the professional art of teaching.

NATURE AND DEVELOPMENT OF THE MAP

The recent introduction into education of new visual and auditory instruments, such as the cinema, the radio, the phonographic transcription, have called forth extensive investigation into the nature and functional possibilities of these instruments, and into the techniques necessary for their handling. In the process, some of the older visual instruments have been re-scrutinized, one might almost say in certain instances, rediscovered. Particularly is this true with regard to the map.

Few know how to learn from maps and fewer yet know how to teach from them, and yet "maps constitute one of the most useful instruments in visual education." [3] They are also ancestral to "all such instruments, for . . . maps were in use long before lantern slides, motion pictures, and the like were invented." [4]

Maps are representations of the earth or parts of the earth, upon a flat surface by means of lines, words, signs, and sometimes colors.[5] They are "designed to convey correct impressions of the size and shape of an area and to present some of its features or characteristics. Maps are highly condensed complications of information. To the person who knows how to read them, they reveal a great variety and wealth of information." [6] Although "primarily they serve to show the form, extent, location, direction, and the internal and external relations of a region, . . . many other features . . . may be shown. Maps are the resultant record of actual discovery, exploration, survey, measurement, and development of a region and depict in shorthand what would take many pages of text to de-

[3] Colby, Mary M. "Maps in Visual Education." *Carto Craft Comments*, Vol. 3, p. 7, November, 1937. Denoyer-Geppert Co., Chicago.

[4] *Ibid.*

[5] Holtz, F. L. *Principles and Methods of Teaching Geography*, p. 162. The Macmillan Company, New York, 1929.

[6] Wesley, E. B. *Teaching the Social Studies*, p. 353. D. C. Heath and Company, New York, 1937.

scribe."[7] This being true, their origin most certainly lies far back in antiquity, for it has taken man thousands of years to develop the map. "In the British Museum may be seen a series of clay tablets, circular in shape and dating back to 2300 or 2100 B.C., which contain surveys of lands."[8] These were, however, the work of an advanced civilization, and the origin of the map lies far back of that date.

> It is only reasonable to suppose that, even in the most remote ages of history of the human race, attempts were made, however crude they have been, to depict . . . [man's immediate terrestrial surroundings] in some rough manner. No doubt these first attempts at representation were scratched upon the sides of rocks and upon the walls of caves of our primitive forefathers. We may reasonably assume that the earliest cartographical representations consisted of maps and plans of comparatively small areas, constructed to meet some need of the times, and it would be later on that any attempt would be made to extend the representation to more extensive regions.[9]

The first attempts at extending the local plan map were probably simple route diagrams which served as mnemonic records of travel. Gradually, man's knowledge increased until we find the ancient Greeks constructing remarkably interesting cosmograms in their attempt to fit the oecumene to various hypothetical earth forms. By A.D. 150, Ptolemy had devised a system of pseudo parallels and meridians and the protomap was born. Gradually, there were developed portolan charts of the seas and empirical maps of the lands. Just before the first voyage of Columbus, Behaim constructed the first globe. After the Columbian voyages, the broad outlines of the globe were rapidly filled in and the globe as we know it today began to take shape.[10] From this, the discovery of various projections made possible the modern geodetic map and hydrographic chart.

Today, maps take many forms and are used for a multitude of purposes. They vary all the way from picture-cartograms through road and railway timetable charts to highly accurate cadastral survey maps. They

[7] Holtz, *op. cit.*, p. 163.

[8] *Encyclopædia Brittannica*, Vol. 14, p. 837, 14th edition. London, 1929.

[9] Deetz, C. H. and Adams, O. S. "Elements of Map Projection with Applications to Map and Chart Construction," p. 7. Department of Commerce, U. S. Coast and Geodetic Survey, Special Publication No. 68. Government Printing Office, 1928.

[10] Jervis, W. W. *The World in Maps*. Oxford University Press, New York, 1938.

are used in museums, world's fairs, commercial exhibits, murals and other interior decorations. Also "the wall map has come into use as a device in advertising. Maps showing the origins of raw materials, of the distributing of output, of customer distribution, and of other phases of activity are in widespread use. The animated map, the symbolic map, the definition map, the activity map, the weather map, and other types of maps call for attention and carry an appeal in many of the finest buildings in this country."[11] Despite all these technical and commercial adaptations of the map, its largest use is in education.

SYMBOLIC NATURE OF THE MAP

The map is not intended to be a picture of the earth in miniature. It is not what the hypothetical Martian astronomer sees through his telescope when looking at the planet Terra. On the contrary, the map is a highly conventionalized graph drawn upon a mathematical base and more or less covered with symbols. None of these has intrinsic meaning; indeed, the entire map is extrinsic in connotation. It has taken man 3,000 to 5,000 years to develop the map, and prior to that it took him approximately 40,000 years to originate the idea upon which the map is based. Behind that origination lay approximately 900,000 years of evolutionary development up to the point where he could even begin to grope for such an idea.

In the light of these facts it is fairly obvious that one cannot simply exhibit a map and expect that the student will learn by merely looking at it. The map is about as easy for the beginner to read as is a foreign language. When a teacher, therefore, hangs up a map, points to it, and asks the beginner a casual question, he is actually committing an educational enormity.

The commonly recognized purpose in using the so-called visual aids in education is to create visual imagery or to give definiteness and direction to whatever visual imagery may arise spontaneously—or, one might add, to give dimension to the visual imagery which tends to arise from and through other elements in the learning process. Among the elements which can be presented by means of visual aids are size, form, position, perspective and depth, color, and motion.

[11] Colby, *op. cit.*, pp. 1 and 7.

To supply these elements of reality in sense perception, some nine or ten categories of objective aids have been introduced into education: models, pictures, museum materials, drama, pictures, maps, and so forth. Each of these objective aids presents certain elements of reality while sacrificing others. The drama, which embodies most of the element of reality, is a fairly complete objective instrument, but it is severely limited in its applicability. Nevertheless it is the most nearly perfect and must therefore be rated at the top of the scale.[12] The museum specimen and the chromo-sound-cinema follow in order, and so on down to the statistical chart at the bottom of the scale of reality.

If the map be examined, it will be found that sound is absent, as are also motion, perspective, and dimensional depth. Likewise color as a natural attribute is lacking, although color is often employed for arbitrary conventional purposes—a circumstance which is highly confusing. Position and locus are present but in such manner as to necessitate teaching the geometric elements of the map and its geomatical orientation in nature. Form is present but is so highly conventionalized as to require special training in reading and interpretation. Size is entirely fictitious, but may be deduced if the mathematics of scale and ratio be taught. Some maps, for instance, are constructed upon a scale of 1 to 15,840, others 1 to 126,720; or 1 to 10,000,000—none of them a simple concept to say the least. One must conclude, therefore, that the map possesses a low degree of total reality.

What makes for reality in an objective educational instrument? Stated simply it is the proportion of naturalness to symbolism, i.e., the degree of conventionalization employed. The dramatic lesson is almost a replica of reality. A picture is partly a replica of reality, partly convention. Language, at the other extreme, consists entirely of symbols and is therefore completely conventionalized. A map is very near the bottom of the reality scale. It reproduces only outline form and relative location; the rest of it is as symbolic as language.

A map actually consists of three distinct elements: (1) the *projection*, which is a mathematically derived system of co-ordinates—lines drawn

[12] The excursion or field trip is here considered as a teaching procedure rather than a visual aid.

for the purpose of adapting the surface of the spheroid Earth to a plane surface; (2) the *base* or *outline*, i.e., the tracery or graph representing the outline of land and water bodies as projected onto the grid of the projection; and (3) the *data* in the form of words, numbers, and conventional representations.

THE ROLE OF SYMBOLISM

Much of the ill-usage of visual instruments in teaching arises out of the failure of the teacher to distinguish between those which are replicas of the real thing and those which are representations. Since all representations are conventionalized and symbolic to a certain degree, it is important that such distinction be made.

Adult humans, particularly those who are scholarly in their bent, as, for example, teachers and research technicians, are conditioned from infancy in the substitution of symbols for real things, so much so that they often forget that the symbols are not real things but merely substitutes for reality which have no meaning save by common group agreement. Indeed, the chief intellectual difference between modern man and prehistoric homo sapiens is the larger amount of symbolism used by the former. This underlies the whole phenomenon of written language. For example, in English, a certain guttural consonant sound is represented by the symbol "c," one possible vowel sound by "a," and a specific dental consonant sound by "t," whereupon, by common agreement, c+a+t represents a well-known species of mammal. No one would ever discover it, however, unless he had studied the Germanic languages. Similarly a naught (or so-called zero) is made to stand for nothing, but no child would guess that fact; neither would a man from Jupiter, nor even a Bantu chief with an I.Q. of 185. Obviously, it is owing to the very fact that language is so highly symbolic that we have had to resort to visual and auditory devices in teaching. By the same token, however, the teacher must be aware of just how symbolic is each of these auxiliary instruments itself.

This discussion conveys a rudimentary idea of how much civilized adults are conditioned, from birth on, to the use of symbols. Facility in their use, however, is not inherited. Consequently, a symbol means no more to a child at the outset than does the diagram of a mouse to a cat.

PRIMARY PURPOSE OF THE MAP

To most teachers, the map is simply an instrument on which places may be located. It does have this function, but such a conception is highly inadequate. It is still inadequate even when the idea of location is expanded to include locus, vicinal relation, and physical and geomatical position, with all their involvements in distance, direction, latitude, longitude, magnitude, and form. Henry Johnson seems to have conceived of maps in approximately this expanded sense when he stated that "the primary purpose of maps is to assist the pupil in grasping place location. . . , to assist the pupil in keeping history on the earth" [13] (and it might be added, to assist also in keeping geography "of the earth," and economics, sociology, anthropology, and political science "related to" the earth).

This restricted idea of the map's function, which, unfortunately, is the one held by most teachers of social science, is actually true only for the map projection and base, but usually not true for the map as a whole. It quite overlooks the fact that its principal purpose is to present data. In most instances, these data are much more important from the standpoint of pedagogy than is the basal portion of the map. Such a varied wealth of data is presented cartographically, so that one may actually teach from maps rather than by the aid of maps.

SECONDARY PURPOSES OF THE MAP

In addition to the presentation of data, the map serves several secondary functions:

1. Maps afford the means for visualizing large or remote areas. "They are objective evidences of something too big to see as a unit, but which must be visualized to be understood. . . . Maps lead the child . . . to gain orienting concepts of the world in which he lives." [14]

2. Maps provide a basis upon which to visualize descriptive information. The great amount of descriptive detail which may be read from books or secured from pictures or elsewhere in the process of studying

[13] Johnson, H. *Teaching of History in Elementary and Secondary Schools*, p. 242. The Macmillan Company, New York, 1915.

[14] Colby, M. M. "Maps in Visual Education." *Carto Craft Comments*, Vol. 3, pp. 1, 7, November, 1937. Denoyer-Geppert Company, Chicago.

a unit on France, for example, remains in a more or less inchoate floating condition in the student's mind, and is kept from mixing with information about Spain or Germany or Belgium only by the thin walls of memory. If, however, it is anchored in place by being tied to the *map* of France, there is little likelihood of its admixture with ideas about neighbor countries which have similarly become parts of total visual pictures.

3. Maps provide a basis for inferential thinking. One of the more important phases of learning is the making of inferences from known facts. This is difficult in connection with written or orally presented data. Maps, however, present salient selected data in such manner as to encourage inferential thought. For example, an area of lowland may be shown on the physical map, an absence of permanent streams or the presence of lakes without outlets lead one to infer a desert climate. Latitude, interior, or lee coast location and a lack of cities further support this conclusion. Whence it is but a short step to infer the natural vegetation, the wild animal life, the population density, and the economic life and possibilities of the area in question.

4. Maps show location. "One important use of . . . maps is for locating places. Many adults have no idea of the location of some of the places about which they read or hear. They will either dismiss them from their minds or consult an atlas for their exact location. Most pupils who have not acquired the habit of turning to maps when a strange place is mentioned will do just what many adults do, dismiss the name from their minds rather than take the time to find the place on a map." [15] The sorry fact that even college students in social science do not possess such elementary map knowledge as the location of outstanding places and areas suggests the extent to which this function of maps has been neglected.

5. Maps help to show relationship. When one studies the data found on two or more maps, or when he studies two or more types of information found on the same map, it becomes obvious that they are related—sometimes even to the extent of being direct cause and effect. For example, land use is related to climate, soil, relief, and location; population density is related to all of these factors and, in addition, to water re-

[15] Norton, E. "Teaching With Maps in the Intermediate Grades." *Journal of Geography*, Vol. 27, pp. 353-354, December, 1928.

sources, minerals, coastal features; and so forth to great length; vegetation is related to soil, soil to climate, minerals to land forms. Furthermore, political maps show important relations to all these factors, and historical maps reveal that present-day political divisions, economic features, and geographical groupings have passed through an evolutionary change in their relation to these factors. "That students should not gain from maps all the relationship story that is spread before them is regrettable and represents a tremendous educational waste." [16]

6. Maps afford the means for regional synthesis. One of the most important recent developments in the social studies is the increase in the use of the regional method. This is, of course, only one part of the rapidly increasing amount of attention being paid to the subject of regionalism in general, but it is fraught with great educational significance.[17] No matter how much study, field work, or reconnaissance examination the student may do, it is impossible for him to envision a region without recording it on a map. How much more necessary does it become in connection with the many regions which the pupil does not have the opportunity to visit and investigate. Regions are areas within which there are clusterings of political, economic, social, environmental, and historical elements. These interrelated clusterings are apparent only when maps depicting such elements are assembled and compared. Indeed, the possession of a set of maps showing various types of data for the world, a continent, or a country, enables the class to construct its own set of regions for general use.[18]

7. Maps promote interest. The map, like all visual aids, is designed to give an aesthetic impression. Maps are attractively colored and interesting in form, and to those able to read their language, challenging in content. A wall map has the added advantage of being visible to the entire class, and when a feature is pointed out it forms a common starting point for all members. From then on, the map acts as a directive channel for the progressive efforts of the entire group. The map, properly used, attracts attention, promotes interest, and helps to sustain effort.

[16] *Teaching the New Geography*, p. 4. Denoyer-Geppert, Chicago, 1929.

[17] See Odum, H. W. and Moore, H. E. *American Regionalism.* Henry Holt and Company, New York, 1938.

[18] See *Philips' Comparative Wall Atlas Maps.* American agent—Denoyer-Geppert, Chicago.

SOME LIMITATIONS OF MAPS

1. Maps can limit and restrict the imagination as well as stimulate it. For example, pupils can get the idea that Europe is *on* the east wall, that cities are points, that land elevation changes abruptly at a contour line, or that population consists of dots or colors.

2. Maps can deceptively simplify. From them can be gained the idea that a plain is level, that a coastline is smooth, that a mountain range is a single chain of highland, or that rainfall is evenly distributed between isohyets.

3. Erroneous associations frequently develop in connection with the map. Indeed, as Henry Johnson suggests, wrong associations are as easy to start as correct ones; some care must be exercised, therefore, lest it become necessary to unteach such errors.[19] At random, the following might be mentioned: that New Hampshire is orange or the British Empire is red; that Siam is in the southwest corner; that north is up and south is down, on a map; that east is toward the right (never true as a cartographic principle).

4. Maps can be used as the basis for ill-advised questions. Harlan Barrows cites a question found in a recent textbook for beginners: "The pupil is told to point to . . . a part of [the map of Australia] *that looks very dry*, and to a part of it *that seems to have plenty of rain.*"[20] Obviously, no political or physical map *looks* either dry or rainy. The question *can* be answered of course, but the inferential thinking required would constitute a difficult if not impossible exercise for most college students.

5. Maps can be taught as ends in themselves. Just as the use of the educational film may degenerate into mere amusement, so can the use of maps decline into busywork. Or if not busywork, then at least to a position where map study is regarded as an end in itself. This, of course, simply adds an extra, sterile burden to the work of the class. Barrows cites additional questions and directions: For example, the pupil "is asked

[19] Johnson, H. *Teaching of History in Elementary and Secondary Schools*, p. 239. The Macmillan Company, New York, 1915.

[20] Barrows, H. H. "Some Critical Problems in Teaching Geography." *Journal of Geography*, Vol. 30, p. 359, December, 1931.

what direction Australia is from Asia, what ocean lies east of it, and what ocean lies west of it." He comments rather cogently that unless such questions be answered from the map at the juncture where they function, they have no place in the class and provision for such study is not legitimate.[21]

TYPES OF MAPS AND THEIR DATA

The first three decades of the twentieth century witnessed a surprising evolution in the character, variety, and use of the map.

During the last century a teacher who had a good set of politically colored maps was quite content to teach with such a set. Early in the present century, teachers began to demand in addition to the politically colored maps a set of maps colored physically, so as to bring out more easily the plains, plateaus, and mountainous areas. Today the wide awake teacher . . . is not satisfied with having only these types of maps, essential as they are, but demands maps showing . . . [a wide range of additional data].[22]

Today, maps found on the walls of the school classroom are of many kinds, and present a varied array of data. In general, however, they fall into two groups or categories. Colby [23] has classified the ordinary types of maps as follows:

GROUP I

Earth Features or Conditions

Physical Features
- Elevation above sea level
- Drainage courses
- Coast lines
- Depth of sea

Climatic Conditions
- Precipitation
- Temperature
- Pressure
- Winds
- Weather

Native Vegetation
- Forests
- Grasslands
- Steppes
- Tundra

Physiographic Diagrams
- Land Forms
- Drainage

Geological
- Underlying rock
- Mineralized areas

[21] *Ibid.*

[22] Denoyer, L. P. Preface to *A Teacher's Manual Accompanying Philips' Comparative Wall Atlas Maps* by Unstead, J. F. and Taylor, E. G. R. Denoyer-Geppert, Chicago, 1930.

[23] Colby, M. M. "Types of Wall Maps." *Carto Craft Comments*, Vol. 3, p. 1, April, 1938. Denoyer-Geppert, Chicago.

GROUP II

Some Aspects of Human Affairs

Population
- Density per square mile
- Dot maps

Political
- Political divisions
- Cities and towns

Commodities
- Crops
- Mineral products
- Fisheries
- Forest products

Transportation
- Railways
- Sea routes
- Highways
- Airways

Land Use
- Agricultural areas
- Pastoral areas
- Manufactural areas
- Forested areas
- Urban areas
- Deserts
- Mountain areas

Historical
- Empires of the past
- Discoveries
- Ancient routes, etc., etc.
- Evolution of institutions or areas

In addition to the maps which depict these usual data, there are many others which present more specialized information: soils, power resources, land erosion, tax delinquency, recreational facilities, real property values, race, language, literature, religion, and so forth. "In fact any information which can be measured and located may be placed on maps." [24]

FORMS OF THE MAP

The map as it is used in education commonly appears in one of five forms: (1) the wall map, (2) the textbook map, (3) the globe, (4) the atlas map, and (5) the outline map.

The Wall Map. One of the most valuable of these forms of the map is that which may be displayed upon the wall. "A few decades ago, few wall maps were employed in teaching and those which were used were small, illegible at a distance, and restricted in types of data which they portrayed." [25] Today there are a large number and variety of useful wall maps available. Their broad scope has been clearly indicated in the pre-

[24] Bining, A. C. and Bining, D. H. *Teaching the Social Studies in Secondary Schools*, p. 307. McGraw-Hill Book Company, New York, 1935.

[25] Renner, G. T. "Blackboard Wall Maps." *Journal of Geography*, Vol. 34, p. 369, December, 1935.

ceding classification. These maps offer many advantages for class use in history, geography, and the other social studies. "By means of a pointer the teacher can be sure that the exact place or feature under discussion is apparent to every member of the class. They facilitate group attention, avoiding the delay and confusion which accompany the efforts to locate the desired feature on a map in the textbook. . . . Large maps furnish an excellent aid for the student who is encouraged to designate the place, route or area under discussion." [26] They should never be regarded as objects to which one refers occasionally nor as merely illustrative material for the lesson. They are the very basis upon which teaching should be done. In many instances, the whole lesson should be built squarely upon their constant use.

The Textbook Map. Maps are relatively expensive to make and print, and consequently few are found in most school textbooks. The number of such maps, however, is increasing but their use is usually poor and ineffectual. They should be selected carefully and designed specifically to accompany the textual material. It seems probable that there should be no formal exercises as such in connection with maps of this kind, but the context of the book should involve their constant consultation. No map should be included and no datum should be present on the map which is not used. Maps in this form have the advantages of convenience, clarity, visibility, and specific relation to the context. They may be of various types, but particularly useful are the small black-and-white maps of the kind so widely used by European writers of social science text and reference books.[27]

The Globe. "Since the Earth is a sphere, the globe is more accurate and a more illuminating representation of it than any map can be." [28] In actuality, it is map and model combined, but for some purposes it may be regarded simply as a special form of map. Its distinguishing feature is that it is a map drawn upon an Earth-like sphere, thereby obviating the necessity of an artificial mathematical grid. Consequently, in teaching

[26] Wesley, *op. cit.*, p. 357.

[27] See Wells, H. G. *The Outline of History.* Third Edition. The Macmillan Company, New York, 1921. Brooks, L. *Europe.* New Regional Geographies. University of London Press, 1926.

[28] Colby, M. M. "Introducing Pupils to Globes and Wall Maps." *Carto Craft Comments,* Vol. 3, p. 5, April, 1938. Denoyer-Geppert, Chicago.

from it, there is the added suggestivity of the spherical shape, and the lack of necessity for teaching projection. The symbols, legend, and scale, however, are similar to those of other forms of the map.

[Globes] represent the meridians and parallels in their correct relations. The scale of distance is the same in all directions. Areas are represented correctly in relation to each other. Two types of globes are essential. One is the large sixteen-inch globe, preferably suspended. Formerly this globe could be secured only with the political features on it, but now a physical globe has been made. It should be of greater value than the political. If a school can afford the cost, an eight-inch mounted globe also is desirable for each room. . . . The other type of globe is the slated globe. Many features may be drawn on this and then erased.[29]

It is surprising how much can be learned from a globe if it is understood. . . . Its wealth of information lies hidden until we learn to read its distinctive language. Then generally to our surprise, it reveals a vast amount of information both factual and causal. . . . Because the earth is a sphere, certain parts of it receive more heat from the sun than certain other parts. This in turn determines the kind of houses, clothing and food used in the different regions, and so on with the numerous responses in our daily life, all growing out of the fact that the earth is a sphere.[30]

The Atlas Map. An atlas is, among other things, a book of maps. It may contain not only maps showing place location, but scores of cartographic representations of rich and varied data. Its pages may reveal even greater variety than does the fullest assortment of wall maps. Moreover, these data are shown in much greater detail, and are available for close individual scrutiny and comparative study. There are, of course, some atlases which show little more than civil boundaries and place locations, but this type of atlas is not designed for educational use.

The "atlas habit," like the dictionary habit, the encyclopedia habit, or the library habit, should be one of the permanent outcomes of progressive education. This simple fact, unfortunately, is largely overlooked by American educators.

The Outline Map. An outline map usually consists of little more than the configurations of land and water areas drawn upon some

[29] Thralls, Z. A. and Reeder, E. H. *Geography in the Elementary School*, p. 390. Rand McNally & Company, New York, 1931.

[30] Denoyer, L. P. *A Teacher's Manual Accompanying Cartocraft Globes.* Third Edition. Denoyer-Geppert, Chicago, 1936. See the Preface particularly.

selected projection. Outline maps sketched upon the blackboard may be used either to present certain facts which the teacher wishes to drive home or to test the pupils' ability in locating important data. More convenient are the prepared slated outlines which are manufactured under the name of blackboard or cartographic maps.

A cartographic map of the United States can be used to show territorial growth, to mark off the old Northwest, to designate the cotton-growing area, and for a score of other purposes. The map is easily erased, and the outline is ready for another type of material. . . . This type of map saves the time of drawing on the blackboard, affords greater accuracy of detail, and seems to be appreciated by the pupil. . . . It has the advantage over printed wall maps in that the teacher determines just what . . . [datum] . . . is exhibited and irrelevant matter need not appear." [31]

The pupil is also able to see the data being put on the map, a kinetic factor which adds vividness to the learning situation.

Outline maps also take the form of small paper maps for individual student use at the desk or laboratory table. "They may be obtained from publishing houses or may be mimeographed by the school. The use of water colors, crayons, or colored inks on outline maps makes possible the filling in of boundaries, routes, invasions, explorations, and movements of population." [32] Entering data upon such outlines is often the most effective method of learning such things as the location of the American frontier in 1783, the recent additions to the German Reich, or the extent of the Russian wheat belt.

INTRODUCING THE MAP

An important factor making for effectiveness in the use of maps is the manner in which they are introduced to the child. "First impressions are of as vital importance in the use of globes and wall maps as in meeting people and visiting places." [33]

Before teaching from the map, therefore, the teacher must train the pupil to use the map. This process involves the following steps:

(a) Identifying and defining each of the map elements by the teacher.

[31] Wesley, *op. cit.*, p. 356.

[32] Bining and Bining, *op. cit.*, p. 307.

[33] Colby, M. M. "Introducing Pupils to Globes and Wall Maps." *Carto Craft Comments*, Vol. 3, p. 5, April, 1938. Denoyer-Geppert, Chicago.

(b) Requiring the child to find and point out examples of each of the map elements.

(c) Developing the ability to do simple definitive and descriptive exercises with the map elements.

(d) Building up the ability to use the map for deductive-inductive purposes in learning and exposition.[34]

The map certainly should not be introduced too early into the teaching process. The globe should not be used formally before the fourth or perhaps even the fifth, although informal notions of the shape of the earth may be gained in the primary years.[35]

"Partly owing to pressure from above, the study and use of maps is often introduced as much as a year before it ought to be. The beginning of the fourth grade is plenty soon enough to attempt the development of the conception of a map." [36] The first steps in building the idea of the map should begin with the making of plans of the schoolroom, yard, or immediate surroundings. The pupils should then either make a relief model, or have an opportunity to study one of the neighborhood or the region open to their observation." [37] The remainder of the fourth grade should be devoted to a study of the local community or region, its *heimatkunde* and home geography. It should involve the making of a gradually expanding sketch plan of the surroundings, and may culminate in a brief introduction of the pupils to the map of the home county or state. "If the study of the map of the home region has been neglected, they have no foundation which makes it possible for them to see, in imagination, a real stream of water, for example, when they look at a certain crooked line upon the map. They are told that this is a river, but the teacher too often makes no effort to give them a conception of a river by discussing some stream in the neighborhood." [38]

In the fifth grade, the home region should be located upon and related

[34] Renner, G. T., Colby, C. C., et al. *Successful Geography Teaching*, p. 9. Denoyer-Geppert, Chicago, 1939.

[35] See Wyler, R., *The World is Round* (E. M. Hale and Co., Milwaukee, 1937) for a method of teaching this concept in the primary school.

[36] See Moyer, J. and Taylor, F. E. "Introduction of the Map to Fourth Grade Children." *Journal of Geography*, Vol. 34, pp. 249-252, September, 1935.

[37] Fairbanks, H. W. *Real Geography and Its Place in the Schools*, pp. 187-188. Harr Wagner, San Francisco, 1927.

[38] *Ibid.*

to the globe. "The Earth as the home of man is a matter of great interest, and here is a globe which represents that Earth. To be sure, the Earth is X times as large as this globe, but nevertheless the globe represents the Earth, and being small we can see it, whereas we can see only a tiny part of the Earth at any one time." [39] The globe in this grade should not be used to teach revolution, rotation, and geomatical relations as is traditionally done, but should be employed to give the pupils accurate notions of land and water distributions, hemispheres, continents, countries, and cities, and a few other working concepts of the world they live in.

After certain aspects of the globe are thoroughly understood, the wall map of North America should be introduced and its relation to the globe studied. Next should come a map of the United States and finally that of the home state. In the end, "A globe representing the earth, and wall maps representing, respectively, North America, the United States, and the home state are before the class. The first represents the whole world, the others, parts of the world. The representations of parts of the world fit into the representation of the whole, as a part of a picture puzzle fits into the whole." [40]

From this point on, the map becomes an active instrument in teaching and learning. At first, simple political and physical maps of the home state, the United States, and North America can be used in problem solving. Later, maps of other countries and continents, as well as the world map, may be introduced. Gradually, maps showing more specialized data should be brought into use, so that by the end of the senior high school the average student should be able to secure information from practically all types of maps with considerable facility, be able to carry on comparative study involving several related maps, to utilize maps in both deductive and inductive reasoning, and to appreciate the value of the map as an instrument for presenting data as well as its role as a source of information.

[39] Colby, *Introducing Pupils to Globes and Wall Maps, loc. cit.*

[40] *Ibid.* See also the highly effective plan for introducing the map devised by Barrows and Parker. Their ingenious procedure starts with a picture of a city and ends with a simple world map. (Barrows, H. H. and Parker, E. P. *Journeys in Distant Lands*, p. IV. Second Edition. Silver, Burdett and Company, New York, 1936.)

PRINCIPLES OF MAP TEACHING

The effectiveness with which maps may be employed in the classroom depends upon an understanding of the detailed pedagogy of their use.[41] Teaching with the aid of maps actually involves a sequence of some eight steps:

1. The first step is the direct appeal to the eye, the securing of attention. It is here that the large wall map demonstrates its value.

2. The second step is that of arousing interest—making the pupil aware of a challenge or conscious of a problem. Sometimes this is evoked by a spontaneous situation, but more often it is a form of the familiar problem of motivation by the teacher.

3. The third step consists in the handling of the symbols of the map—initiating and guiding their use.

4. Fourth, the imaginative process is set in motion. Part of this consists in gaining a concept of size and proportion.

> If, for example, a class is studying the state of New York and has at hand a wall map of that state, the relation of New York to the United States can be shown by comparing the map of New York with that of the United States, and the relation of New York and the United States to other parts of the world by reference to a world map or a globe. Constant use of maps in this way should and will develop the sense of dimension in a child's mind. This dimension as I think of it is more than area or place. It includes a concept of proportion, of the relation of one area to another in size, in distance, and in character.[42]

Part of this fourth step also consists in gaining a sense of reality.

> The teacher should endeavor constantly to make the map meaningful and concrete. This may be done by linking the children's experiences with the map symbols. Pupils should be led to imagine the cities, the rivers, the lakes, the highways, the mountains, etc., which the symbols on the maps indicate. Some of those things may be outside their experience, but many are not. . . . Pictures assist in making maps real. When the class is studying the map of a mountainous country such as Norway, pictures of the farms clinging to the

[41] See Preble, C. S. "Visual Aids: Their Use and Abuse." *Journal of Geography*, Vol. 30, pp. 120-121, March, 1931.

[42] Colby, M. M. "Globes and Wall Maps." *Carto Craft Comments*, Vol. 2, p. 3, April, 1937. Denoyer-Geppert, Chicago.

mountain side, of the forested slopes, the waterfalls, and the glaciers in the mountains will help them to visualize the symbols on the map. This constant imagining of reality is necessary. The reading of vivid description, or an oral description by the teacher will assist the child to go beyond the mere map. A step beyond the visualization of the map is reading the thought into it.[43]

Still another part of the process consists of gaining a sense of personal participation in the map; that is, the translation of the ego to the designated locus. It is probably true that the map of Ethiopia, to select an example at random, has not taken on actual reality until the pupil is able mentally to see himself standing upon the hilly Plateau of Abyssinia, amidst the abysmal mud of the rainy season, with the scudding clouds overhead, with the lashing wetness of the southeast monsoon all around; in the distance the meager cattle of Masai herdsmen, and on the poor road which winds near by through the bush and tree-dotted savanna, a band of Amharic merchants turning aside to let a detachment of Italian soldiers pass. It is a curious fact that the pupil can be led actually to see and feel himself amidst such map-evoked surroundings at the same time that he is actively participating in a classroom situation.

5. The fifth step is the sensitization to detail and the process of elaboration. Maps are constructed so as to emphasize certain selected features which are readily apparent. Further study, however, reveals a quantity of secondary features. It is frequently this secondary detail which plays a large part in determining the actual effectiveness of the map as a learning instrument.

6. The sixth process is interpretation or inductive association. After the details have been brought to the foreground of attention so that a wealth of data has been perceived, then, as pointed out by Trunk: "The content, the thought, the *geistiger Anhalt* must be read in. . . . Between the lines must be read generalizations and principles. . . ."[44] The pupils must learn to read meanings into maps and to consider them as one of the chief sources of . . . information."[45]

7. Seventh is developing the idea of relationship between discrete ele-

[43] Thralls and Reeder, *op. cit.*, p. 388.

[44] Quoted by Holtz, F. L. *Principles and Methods of Teaching Geography*, p. 169. The Macmillan Company, New York, 1929.

[45] Branom, F. K. *The Use of Maps*, p. 9. Nystrom, Chicago, 1925.

ments—deductive inference. This can be done by demonstrating the relation between two types of data found together on one map, between two maps of the same area, each presenting a different datum, or between the data on the map and facts already known to the pupil. "The child should be taught to combine, break up, and recombine the symbols, just as he breaks up and recombines the thoughts in sentences and paragraphs." [46]

8. The eighth and last step consists of going back to the class situation and applying the data secured from map study. The ultimate test of the worth of map study is expressed by the question: Does it lead the child to the solution of the original problem arising in the class situation, "not by telling him the facts to be gained, but by showing him the types of data needed for the solution"? [47]

From the standpoint of the pupil, the process may be restated in the form of some eight steps in learning from the map: (1) Observation—perception and focusing attention; (2) Recognition of a problem; (3) Realization that the materials are symbolic—that they differ in size, color, scale, and so forth, from the original; (4) Analysis; (5) Comparison; (6) Classification of data; (7) Making generalizations; (8) Application.

Modern researches in educational psychology reveal quite clearly that visual memory is the strongest type of memory in most children. They have also generally established that, in a majority of instances, visual perception is more rapid and vivid than other forms. This suggests that both the gaining and retaining of knowledge is immensely facilitated by the use of visual aids in teaching. Their use, however, demands exceptional skill on the part of the teacher. Needless to say, this skill is greatly reinforced by the correct design and selection of the visual aids to be used.

MALPRACTICE WITH MAPS

The use of maps in social studies classes is, in most instances, seriously inadequate. In the occasional situations where maps are recognized as

[46] Thralls and Reeder, *op. cit.*, p. 388.

[47] Duboc, J. L. "Some Questions Teachers Ask Concerning Map Study in the Intermediate Grades." *Journal of Geography*, Vol. 32, p. 248, September, 1933.

important instruments in teaching, their use is likely to fall far short of what is possible. There are several reasons why this is true: [48]

1. Formal map study is begun too soon, i.e., long before the child has acquired a sufficient background of information, observation, and experience. To some extent this is the result of misunderstanding on the part of curriculum makers who have pushed such work downward in order to free the later grades for work which they consider more important.[49] It is perhaps also the result of the efforts of some map companies and their salesmen.

2. Maps for the intermediate grades are too complicated. Indeed, it may be safely said that maps for use at all levels need considerable revision; in certain respects they should probably be entirely redesigned in the light of recent educational findings.

3. Much map work is miscellaneous rather than based upon actual problems. Fairbanks correctly appraises this situation by saying that there is so much connected with it "to which exception can be taken that it is difficult to offer criticisms without throwing the whole overboard and beginning upon another foundation." [50]

4. Children are not given enough map practice in problem solving.

5. The map work of the first two or three years in the social studies has been unsystematic—that is, it has been based upon a trial-and-error technique.

6. Children have too few activities calling for the making of graphic, pictorial, and cartographic representation of facts.

Basic to these faulty procedures are the many incorrect assumptions which are often made in connection with the use of maps in education. Some of the more common are: (*a*) that maps are reproductions of reality; (*b*) that the symbols on a map are understood; (*c*) that the interpretational and associational processes will be carried on by the pupil; (*d*) that the map constitutes its own excuse for being used; and (*e*) that the map eventually becomes a permanent learning tool which will be used by the individual when he becomes an adult.

[48] See Norton, *op. cit.*, pp. 247-248.

[49] Fairbanks, H. W. *Real Geography and Its Place in the Schools*, p. 187. Harr Wagner, San Francisco, 1927.

[50] Fairbanks, *op. cit.*, p. 185.

CONCLUSION

The map is a device so universal and so important in our daily living that it merits the thoughtful consideration of teachers. It is an instructional aid which functions significantly in the classroom; it is a symbol that yields rich understandings to the adult. Indeed, Colby has suggested that "the degree of familiarity with . . . maps and globes, therefore, might be taken as an index of culture—not maps and globes in themselves, to be sure, but for what they represent, for the areas they enable us to visualize." [51] The extent to which maps will be utilized in post-school adult years as instruments of learning will depend upon two circumstances: how thoroughly they have been mastered, and how effectively the student has been led to regard them as active educational tools.

Some reforms and improvements in maps themselves are needed, but much more imperative is the training of teachers in the technique of teaching with maps, showing them what are the potentialities of map use, and increasing the number and quality of maps available in the schoolrooms.

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[51] Colby, M. M., "Maps in Visual Education," *loc. cit.*, p. 1.

The Environment as a Science Laboratory

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IF THE secondary school is to challenge the adolescent, the curriculum must be vitalized. Boys and girls in high school need to progress in the understanding and appreciation of their own physical, social, intellectual, and emotional needs in terms of their relation to other individuals in the social pattern and in terms of ways they may meet these needs in the community world where they find themselves.

The integration of personality as a major outcome of instruction can be realized as the individual identifies himself with an ever-widening environment. This viewpoint is ably expressed as follows by Lester Dix:[1]

> . . . . the orientation of education in our time and in the future must be in the direction of new adventures, new sensitivities, new experiments in life and learning—of expansion of experience rather than restriction, and toward the preservation of integration throughout these adventures, and the achievement of new stability by dealing competently with the new rather than by avoiding it. We must offer every individual not only an unimpeded process of growth, but growth at all times stimulated to deal as richly as possible with all experience. We must constantly open doors, and when we close any, do so temporarily or for the sake of opening a more promising door. *Insofar as we can manage it, the whole of the world of experience, with all of its significance, must be open before the learner, while we stand by to help him equip himself with the tools, the ideas, the judgments, and the attitudes which he must have in dealing with his experience.*

In this article the writer proposes to point out ways of using the community as a science laboratory in educating adolescents. Many of the suggestions made, however, apply equally well to the elementary school.

[1] Dix, Lester. "Aesthetic Experience and Growth in Life and Education." *Teachers College Record*, Vol. 40, pp. 210-211, December, 1938.

How can American schools provide experiences of greater consequence through firsthand study of the community? What difficulties stand in the way and how can they be met? How can the community be used effectively? What kinds of distinctive experiences can be provided in this laboratory? These are the problems with which this article is concerned.

ADMINISTRATION OF STUDY TRIPS

Excursions into the community and study trips compel the administrators to face problems of leadership, school schedules, costs, and liability.

Those who lead must have a philosophy similar to that expressed above—one which aims to achieve learning by doing, by facing real problems in actual living situations. They must have contacts, born of interests and breadth of vision, which open doors to them. Needless to say, leaders must possess techniques necessary to stimulate interest and research in important life problems, to plan trips where these realities are evident, and to follow up such trips with related classroom experiences.

Finding time for trips is a major problem. In some schools the organization is such that it is practically impossible to arrange trips which last more than one class period. This proves a real handicap and prevents adequate use of the community as a laboratory. In such schools, short trips can be planned during class periods. Others can be taken after school with small groups on a voluntary basis.

Some schools are more fortunate. Schedules are more flexible. Teachers and administrators realize the worth of study trips and co-operate in providing for them. Sometimes two teachers, such as the social science and science teachers, the English and science teachers, or the physical education and science teachers, plan and execute a trip co-operatively, thus freeing two or more consecutive hours. At other times co-operating teachers excuse pupils from their class for the day and allow them to participate in the out-of-school experience.

In some schools the administration makes possible trips without conflict by providing a core curriculum for two or more periods each day in which two or more teachers share responsibility. This added flexibility greatly simplifies schedule difficulties.

Finances are an ever-present problem. Trips in the immediate vicinity

can be financed easily, but transportation costs loom high for more distant ones. Extended trips bring in living costs as an additional feature. When trips are required of all, then the school must pay the costs; when they are made on a voluntary basis, parents are often willing to share in or carry the burden of expense.

It is a well-known principle that the value of an educational experience roughly approximates the interest and enthusiasm with which pupils attack the problems involved in that experience. Thus proposed study trips should be discussed and planned co-operatively in the classroom. Children need to participate in the selection of out-of-school experiences which will be of worth to them in meeting the problems they face in their daily work. They need to share in the planning and to some extent in the making of arrangements. If they know ahead of time the things they can see and study, if they have some idea of the nature of the data they can collect for use in solving problems with which they are dealing, if they are aware of the varied, even though somewhat unrelated, interesting things they may see in their pursuit of the main theme of a trip, then they are prepared to make the most of each opportunity. If such preparation is not made, pupils may have physical contact with experiences which they would treasure, and yet be oblivious to any except the ones which teachers are able to point out on the spot.

Out-of-school experiences can be appraised by the extent to which they revitalize later classroom work. Do they stimulate further investigation? Is there a resultant on-going quality which allows pupils to reinterpret their experiences on a more mature level? Do the trips continue to affect class development throughout the remainder of the year? If the answer is in the negative, it is likely that more care in selecting and planning the out-of-school experiences will result in a much more meaningful curriculum.

Perhaps the responsibility for the welfare of pupils has been the most serious block to trip-taking. School administrators, boards of education, and teachers hesitate to accept this responsibility. Careful pre-planning and execution of school trips do much to reduce the hazards involved. Adequate public liability insurance can be provided which will protect all school authorities and agents directing trips against any claims which may arise.

SAFETY MEASURES

To plan a trip carefully teachers and pupils must consider the hazards which may be encountered. There is no substitute for intelligence and thought on the part of each person concerned. Certain road crossings may be especially dangerous, hand tools must be used with discretion, there is the possibility of falling or of dislodging rocks when hiking, machinery in motion is dangerous, diseases are spread through polluted waters. Careful co-operative consideration of special hazards involved not only makes school excursions safer but also is in itself a valuable learning experience.

When undertaking extended trips of an unusual nature it is well to submit a careful and detailed outline of it to parents for their approval. From their experience helpful suggestions are sure to be given. Similarly, some pitfalls not previously thought of will be warned against. The participation of parents makes the proposed trip more or less a community venture.

The nature of the trip determines largely the specific cautions to be considered in administering it. When hiking on the highway the group should keep together and face approaching traffic. When hiking in woods care must be used to protect fellow hikers from overhanging branches, loose rocks, poisonous snakes and plants, unsafe water, and the like. In wooded regions great care should be taken to safeguard against fires. When traveling by motor vehicles, no individual should alight while it is in motion. Approaching traffic should be considered when getting into and out of vehicles. An article by Stack [2] contains safety measures for use when camping. All hazards can, by careful planning and administering, be reduced to a minimum.

LEGAL RESPONSIBILITY OF SCHOOL

What is the legal responsibility of the school and of the teachers for liability in case of accident or injury? With but few exceptions, the public school is not liable. Weltzin [3] states that:

[2] Stack, H. J. "Setting the Stage for Camp Safety." *The Camping Magazine*, Vol. 11, pp. 11-30, March, 1939.

[3] Weltzin, J. F. *The Legal Authority of the American School*, pp. 111-112. The Midwest Book Concern, Grand Forks, N. D., 1931.

Usually, therefore, actions in tort against school corporations fail under the following common law rule: "The school corporation as a branch or an agent of the state, engaged in the execution of the governmental function of furnishing education to the public, a duty involuntarily imposed upon it by the state, is in the absence of statute to the contrary, protected to the same extent as is the sovereign state from responsibility for its own torts or those of its servants, resulting either from misfeasance or non-feasance in the execution of its public duty."

Three states, Washington, Oregon, and California, now have statutes which allow suits against the school district. In New York State a firm line of cases has arisen following the principle which may be termed the New York Rule: [4]

School corporations in New York State will be held liable for injuries resulting from the wrongful or negligent acts of the school corporation itself through its board, though not for the acts or omissions of the employees of the school corporation.

To date, public schools and school authorities in most states are exempt from liability claims, though recent decisions indicate that courts are tending to hold public schools liable in much the same way that private corporations are held. In general, private schools may be held liable to the same degree as other private corporations. Teachers in both types of schools may be held in suits for damages. In such cases the court must decide whether or not the teacher has been guilty of negligence which contributed to the accident.

INSURANCE PROTECTION

Schools may secure insurance policies which protect them and their teachers against any liability claims resulting from injury to pupils. The following procedure [5] should be followed in securing such protection, especially if pupils are to be taken on many and extended study trips:

1. *a.* Check with the bus or transportation company regarding their insurance to be sure of the soundness of the insurance company, and to see if the limits of their liability are adequate. If the liability limits are

[4] *Ibid.*, p. 139.

[5] This procedure was secured from and checked by representatives of three reputable insurance brokerage firms who prefer not to reveal their identity because of the burden of inquiry which might result.

not adequate, have the transportation company or the school raise them by the payment of a small additional premium.

1. *b.* Check with the bus or transportation company to see if the insurance they carry gives proper protection to school authorities and their teachers against liability claims for injury to children when riding as passengers. If their policy does not provide such protection, have a clause inserted in the policy which provides that the protection be extended to cover the liability of the school and of individuals sponsoring trips, whether or not they personally accompany the trip. This end may also be achieved by having the insurance company issue a certificate covering the interest of all individuals or groups using the bus.

2. Obtain public liability insurance protecting school authorities and all individuals responsible for work which covers all operations of the school whether on the premises or away from the premises as only transportation features are covered in item 1 above. Extreme care should be used to be sure that all hazards are covered since in some instances it is necessary to extend the policy to cover special hazards, such as use of swimming pools, diving platforms, canoes, boats, saddle horses, skating rinks, and the like.

3. Teachers who own private homes, farms, or lodges to which they take groups of children should make sure that they have proper liability insurance to protect them as owners of property which school children frequent.

ENRICHING WEEKDAY SCHOOL LIFE

What are the opportunities for enriching school life in the community laboratory? Of course, these opportunities depend upon the flexibility of the school system and the nature of the community. Several kinds of trips will be described, including a few that can be taken in a single class period, some that require from two periods to half a day, others that cut across subject matter lines and require either a long afternoon or a full day, and finally, an extended week trip where the co-operative effort of a number of different teachers is essential.

Within the school building one may investigate the operation of the heating and ventilating system, the equipment in the school cafeteria, the swimming pool, the switchboard in the school auditorium, the

electric and gas meters, the elevator, and the plumbing fixtures in the science laboratory or school lavatory.

In the school yard or in a vacant lot near the school one may study seed dispersal, the kinds of living things found there, the structure and composition of the soil, the evidences of erosion. If the school is located near a business center, there are undoubtedly many short trips of value which can be arranged. These local business houses may be studied from the standpoint of the way materials are handled, the operation of various machines, the provision for safety and sanitation, and the occupational possibilities and limitations of each. Some things which may be investigated are the refrigeration plant in the meat market, facilities for fire protection in a department store or in a feed mill, the tools, machines, safety devices, car parts, and partially assembled automobiles in a garage, the air-conditioning, projection apparatus, and safety devices in a theater.

When conditions in a school are more flexible, a wide variety of trips can be arranged. Classes can study the interrelations and adaptations of living things as illustrated by the life in a fresh-water pond or in a moist woodland gorge.

Visits to road-cuts and quarries offer opportunity to collect rocks and minerals and study the geological history of the region. The group may discover evidences of glaciation. They can also observe the processes of weathering, erosion, transportation of sediments and deposition of sediments.

In certain regions the production and care of food plants and animals present possibilities for study. Venturesome farm activities reach peaks in the early spring and a trip properly timed will draw upon many branches of science for interpretation. Seedbeds are being prepared and planted. Hens with their broods of chickens, litters of small pigs getting started in life, ewes with suckling lambs can be seen at this time of year. In the fall another high in the cycle of caring for living things occurs. Crops are being harvested and other preparations for winter are under way. Corn is being shocked or placed in silos. Apples and potatoes are being harvested, graded, and stored. Garden produce and flower tubers, corms and bulbs are being stored. Warm winter quarters are being prepared for cattle, sheep, and laying hens. Where can one find more problems requiring scientific interpretation?

Some communities have made notable progress in soil and forest conservation. They offer an opportunity for boys and girls to gain a fine appreciation and understanding of how forests are managed for sustained yield, how erosion can be prevented, how floods are controlled, and how wild life is protected.

At local power plants classes may learn how electricity is generated and distributed. Industries in the community are usually very interesting because boys and girls can see not only how the products are made, but can also get some valuable indirect vocational guidance. Health and safety features of importance to community life should always be examined on such visits.

Rapid means of transportation reach almost every hamlet today. Certain age groups will want to visit the local bus terminal, railroad station, or airport. Similarly, the means of rapid communication can be profitably investigated. Included here are newspaper offices, telegraph offices, telephone buildings, and radio stations. Frequently, some radio amateur has a short-wave station which he is proud to exhibit.

Probably more significant than any of the above suggestions are the opportunities for studying the way community health is or is not maintained. Many activities can be investigated and compared with approved practices in other communities. How is the water supplied? How is it treated? How is sewage disposed of? Are the means employed safe and sanitary? Can they be improved? How does the community dispose of refuse and garbage? Are there better means that should be employed? Are there hazards in the community which jeopardize the safety of adults or children? Are the housing facilities adequate? If not, what can be done to remedy the situation? Are opportunities for wholesome recreation provided? What hospitals and clinics are available? Are the underprivileged properly cared for? How does the local health officer safeguard community health? What part is played by state and federal authorities? These are some of the many questions that can be answered by taking the school into the community. Space does not permit detailed explanation of what has been done by one school when studying this topic.[6]

[6] Bingham, N. E. "Biological Instruction Concerning Public Health." *Science Education*, Vol. 22, pp. 22-27, January, 1938.

WEEKEND TRIPS

In schools where teachers in science, health, and physical education co-operate, there are almost unlimited possibilities for trips combining study with play. An afternoon's exploration of living things in a near-by state or national park can well include an outdoor supper which may be followed by a study of the stars and group singing around the campfire.

Much hiking is essential to the successful execution of a many-stop geology trip in which careful, firsthand observations are made in interpreting the record of the past. Such a trip would probably include a climb to a fire tower or a peak to gain a command of the topography of the region. Within range of New York City is the climb to High Tor at Haverstraw, New York, the highest point of the Palisades. Here the smooth, glaciated, columnar, barren top can be observed, and below it the scenic panorama which extends for miles in every direction. Ideal for study of minerals are Bedford Quarries, Bedford, New York. Many useful suggestions for geological field trips are given by Arnold in his book.[7]

In winter a group visiting a scientific dairy farm may welcome an afternoon of skating and toboganing. In spring or fall a beach party and swim add jollity to a study of seashore life. An invigorating spring hike amidst bursting foliage may have as its objective a visit to a floating bog, such as is found at Little Cedar Pond, Sterling Forest, New York. Here a group senses the close interrelationships among plants which enable them to live on water, and to discover others which have successfully turned the tables on the animals, namely, the insectivorous ones. An ideal combination is to rent a cabin for an overnight or weekend of camping, with study and hiking in some of the splendid park recreation centers now provided.

EXTENDED STUDY TRIPS

Sometimes a class can best achieve their ends by moving to and living in another environment. The ninth grade at the Lincoln School of

[7] Arnold, Herbert J. *Localities for Field Work in Earth Science.* Copyright by the author.

Teachers College has found such study extremely profitable.[8] These adolescents find that they can better interpret our complex city life by studying that of a rural community. Life in the country is less complex than that in the city. People are less dependent upon others for the goods and services they need. Basic needs and ways of meeting them are easier to see. These city-bred children participate in activities familiar to rural boys and girls. They study the community life and the indigenous industries. These experiences give orientation for later study of urban life. Pupils participate in planning, preparing, and serving meals, in caring for the home, in doing farm chores, in furnishing fuel for the fires, in repairing buildings, in draining the soil, and in caring for and preserving foodstuffs. Their use of hand tools introduces the study of simple machines. The group making cider learn much about the action of wheels and axles, the transmission of power by gears, and the operation of the screw.

Added to these learnings is the appreciation of the value of organization in their home-making activities. They learn to co-operate better in all the many tasks they choose to do. They learn to know each other better when making the many adjustments necessary while living, working, and playing together. Many common health problems are met and solved in their daily living. They gain a new respect for the art and handicrafts they find in rural homes. Their contact with the out-of-doors makes them aware of problems involving the interrelationships which exist between forests, soils, wild life, flood control, mineral wealth, and man's economic activities. A visit to an abandoned cellar hole makes real the meaning of the westward migration from New England.

Perhaps the best way to show that these boys and girls do see new relationships and do make new syntheses and interpretations is to let them speak for themselves. One girl wrote the following description after her visit to a woods lumber mill:

As we walked through the woods we saw a great change in the trees. On our side of the fence there was rich black soil filled with leaf mold. Water was plentiful and the smell of decaying and damp leaves was strong. Many

[8] Stewart, Alice. "Living in a Machine Age." *Teachers College Record*, Vol. 39, pp. 494-505, March, 1938. Lucke, Elmina R. "Travel Toward Economic Realities." *Progressive Education*, Vol. 15, pp. 617-628, December, 1938.

varieties of mosses and berries grew here. On the other side of the fence there wasn't a tree over two inches in diameter. The ground was not so fertile and the trees were thin, anemic, and a scrubby third or fourth growth. The comparison between the lumbered and the virgin (or relatively so) forests shows the vital importance of reforestation. As an example, the mill started in a rich hemlock grove. Now they are chopping down tree after tree, young, old, fat, thin, tall, or short as long as it makes lumber. What will be left of the beautiful hemlock grove? Only a tragic procession of neatly cut stumps will remain to mark the spot. Years will roll by, the land open to wind and water erosion will be swept by floods and droughts. What will become of our green hills? With the trees cut down the soil will be washed away and the towns drowned. Trees prevent floods and erosion by controlling the water and holding the soil together. The roots hold the soil and keep it from being washed away. The leaves fall and stimulate plant growth and protect the roots in winter.

The satisfactions which pupils and teachers get from such trips as those described above well repay the energy expended in planning and executing them.

To conclude, the excursion offers several advantages as a means of instruction. It enables teachers to vitalize the curriculum. It offers a much needed type of experience for the rapidly maturing adolescent. It allows a better integration of personality by giving a broader orientation to education through richer contacts with reality. It makes possible a bridging of the gap between school and community life. By this technique the world of experience is opened to the learner.

Excursions are of value somewhat in proportion to the quality of the building-up experiences which precede them and the follow-up experiences in the classroom. Preparation for study trips can best be accomplished by having pupils share in the purposing, selection, and execution of them.

New Studies in Education

TECHNIQUES USED BY THE TEACHER DURING THE NURSERY SCHOOL LUNCHEON PERIOD*

THIS study was undertaken to observe and describe the various techniques used by nursery school teachers during the luncheon period, to analyze these techniques and to evaluate them in terms of their effect upon the children. The purpose was to obtain information that might have practical implications for child guidance in the nursery school luncheon period.

The data studied include records of the mealtime situation in the nursery school in terms of the teacher's activity, records of the children's behavior problems presented at mealtime, and the techniques used by the teacher in dealing with these problems. Additional information was obtained from records of home visits, from nursery school records, and in conference with the nursery school staff. The subjects chosen for the experiment were six teachers and twenty-seven children at the nursery school of the Child Development Institute, Teachers College (a private school), and four teachers and twenty-one children at one of the Federal Emergency Nursery Schools (a public school).

FINDINGS

The findings with regard to the behavior of the children and the teachers show many differences and similarities among them, with many factors entering as influential.

There were no outstanding differences in the behavior of the children from the two schools; each child tended to show a characteristic trend in rate of eating, in kind of behavior exhibited, in kind and frequency of behavior problems, and in amount and kind of attention received from the teacher. Specific problems were all that disturbed the usual equanimity of the mealtime. From the standpoint of demands upon the teacher's time, ingenuity, and attention, dawdling and food aversion were the most prominent that occurred. Dislike was evidenced by specific children for specific foods, and by practically all the children for certain foods of peculiar texture and taste.

The objectives and techniques of the teachers appeared to be essentially the same, although variations occurred in their apparent comprehension and interpretation of nursery school standards. This was noted in the number and kind of activities and techniques they used with the children, and in how they were used. The greatest number dealt with motivating the children to eat (29.7 per cent of total), and the serving of food was second in rank (18.7 per cent). Praise and negative motivation were used sparingly.

The data bring to light a lengthy list of teacher attitudes, techniques, and practices that are most likely to yield the best re-

* By GERTRUDE M. BORGESON, Ph.D. Teachers College, Columbia University, Child Development Monographs, No. 24.

sults. Likewise, notable differences were revealed between experienced and inexperienced teachers in points of emphasis and degree of success.

CONCLUSIONS

The findings point to the need of care in selecting teachers who have had specific nursery school training and experience and who have certain personality characteristics that elicit desirable responses from the children.

The relation of the problems to the child's development indicates that the mealtime situation is an important aspect of child and teacher training in the preschool area.

The majority of children's problems that occurred seemed to be a natural result of the children's stage of development and were easily solved, hence they may not warrant the amount of concern that has been expressed in the literature. A need for a further testing of techniques that might be of assistance in solving the few serious problems encountered at mealtime is indicated.

Certain techniques proved more promising than others in establishing good eating habits. There is indicated a need for a judicious respect for the individual child, for permitting the child a carefully studied choice in selection of his food, for avoiding the possible evils attending such a plan, for a wise use of motivation in terms of its immediate and ultimate effect on the child, and for preparing a desirable setting (emotionally, physically, and otherwise) for the child's eating. Proper guidance during mealtime would call for reasonableness in demands upon the child—too much should not be expected of him, and results should not be looked for before they are due.

THE EXCURSION AS A TEACHING TECHNIQUE*

THE excursion is rapidly becoming recognized as a valuable method of instruction. Certain excursion procedures have been discussed, analyzed, and evaluated in the present study, which also includes the findings of a national questionnaire survey, the results of experimental attempts to measure the value of certain excursion procedures, and fact and suggestion gleaned from scattered references. The purpose of the study is to make available to teachers and administrators information which may further the more effective use of the excursion technique.

The excursion is discussed in relation to its use in various foreign countries in which it is extensively practiced. The development of the excursion procedure in the United States, and of selected details of current practice in certain schools is presented. The results are given of two controlled group experiments which have been made to study the comparative value of excursions to museums and of class discussion in increasing knowledge of history and interest in it.

FINDINGS

According to the findings of the study, in European countries the school excursion is the center around which the curriculum is organized. Excursions, often long extended ones, are planned months in advance, and the greater part of the school work is in preparation for the excursion. The experiences of the excursion provide material for much subsequent study. The

* By HENRY C. ATYEO, PH.D. Teachers College, Columbia University, Contributions to Education, No. 761.

curricular organization for such an excursion program resembles to some extent the integrated programs which are found in many of our progressive schools. Various types of excursions and variations in excursion technique are found. The "teaching walk" with its social purpose, the "walking journey" with its emphasis on physical exercise and recreation, and the "educational visit" are the common forms of excursions.

There are wide variations in the length of excursions in Europe. If the purpose of an excursion can be met by a visit to a place near by, a very brief time may suffice for it; for other excursions, days or weeks may be needed. Extended excursions into the country led, in Germany, to the idea of the *Schullandheim*, or "school country home," in which groups of pupils with their teachers spend a month or more during the year in combined study and recreation. European practice also suggests the use of the excursion as a definite medium for the acquisition of material to be used in establishing school museums or in enlarging already existing collections.

Excursions in the United States are made by schools of all sizes, and by all academic departments, most frequently by science departments, then successively by departments of social studies, commercial studies, and practical arts, and least often by departments of languages and mathematics. Administrative details are usually in the hands of the teacher, with occasional assistance from the principal or school committee in making contact with appropriate authorities or engaging transportation. A general tendency exists to make the excursion a co-operative undertaking of teacher and pupils. Assignment to pupils of a share in responsibility for the enterprise and an active role at the destination promotes a better attitude than is attained when pupils merely participate passively.

Preparatory instruction is an essential of any excursion plan. It is usually carried on by class discussion supplemented by projects. The same methods are used in the retrospective study of the excursion. The purpose of the preparatory study is to provide a background which will enable pupils to observe carefully and intelligently, and that of the retrospective summing up is to clarify obscure points and to knit the excursion experiences firmly into the topic which they were designed to illustrate. Explanations of exhibits and processes made by teachers who are sufficiently informed are often preferable to those of official guides because of the teachers' acquaintance with pupils' capacities and informational backgrounds. The excursion technique in the United States follows the general pattern of the European excursions, usually in simplified form. Much flexibility in procedure is found, and is probably to be desired.

Values assigned to the excursion method on two-thirds or more of the questionnaire survey returns are: awakening of interest in the field of study and in related fields, provision of direct knowledge of the environment through first-hand experience, development of keenness and accuracy in observation, and longer retention of knowledge acquired through its means than through other methods of instruction. Teachers' judgments of an excursion's value were based on their observations of pupils' consequent increased interest in class work, in reading, in carrying out projects, and in voluntarily undertaking additional excursions, and on the results of tests of information.

In two experiments, A and B, which were undertaken as a part of the present study, the increase in factual knowledge, the specific type of knowledge acquired, and the increase in interest resulting from the use of an excursion technique in teaching units of ancient history are compared with corresponding results of the class discussion method. Measurement of the differences in information acquired under the two methods of instruction shows that the superiority of the gain made by the excursion group in both experiments is suffi-

ciently great to be statistically significant. An item analysis of 175 test items used in the experiments shows little difference in the particular kinds of information acquired by the excursion and by the discussion group. The findings of an interest questionnaire constructed for the experiment show that the excursion group has the greater increase in the desire to make further excursions; the discussion group, in the desire to do further reading. The evidence available at the present time points, in general, to the higher value of the excursion technique under the conditions of the experiments, than of other methods with which it has been compared.

THE INTER-TRAIT RATING TECHNIQUE*

RATING scales in general are admitted to have many defects. Among them are: the "halo," lack of validity, systematic biases of judges, effect of too short or too long an acquaintance, difference in rater discrimination, and low reliability. Perhaps one of the chief weaknesses is that the rater is asked to make absolute ratings. In an effort to avoid this weakness, Professor William A. McCall suggested a rating scale technique which compares the conspicuousness of traits within an individual rather than individuals with regard to their possession of a trait. One of the basic features of the technique is the comparison of each trait with another trait which has been chosen as the calibrator or base-line from which to measure the other traits. The comparison is made in terms of the relative conspicuousness of each trait, in the personality of the person under consideration, when compared with the calibrator.

The importance of personality in all fields of human endeavor has led to considerable discussion regarding the description of personality in terms of traits. Whether these traits function separately or as a configuration, personality has been and may be divided into traits for the purpose of investigation. In general, traits such as intelligence and height, which have an existence independent of the factors in the environment, have been confused with personality traits, such as co-operation and friendliness. The latter do not have a separate existence because they depend on the persons participating in the relationship. They exist only in terms of another's reaction, and are the least independent of all.

From the beginning of time various methods have been employed in the evaluation of personality. Among the instruments recently developed is the rating scale. In spite of its wide use, its validity still remains undetermined, possibly because of the difficulties inherent in securing adequate criteria, the choice of which is usually determined by the experimenter's concept of personality. Since the present experimenter believes that individuals probably do not have a personality that remains the same at all times, she defines personality in this study as: "The effect one person has on another." Consequently, the popular procedure of averaging different judgments to obtain "a true personality" is criticized by her.

After preliminary experimentation with the directions and the scales, four hundred eighty ratings, which represented nineteen thousand judgments, were secured from three groups of raters. The findings which are based on these data follow.

FINDINGS

1. The four "total score" methods were about equally good.

*By Marvellen Maher Lombardi, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 760.

2. No significant calibrator corrections were devised.

3. The consistency of the ratings was .82.

4. The validity of the ratings was .48 when compared with another type of rating scale, and differences were discernible between groups of "good" and "poor" personalities.

5. The Inter-Trait Rating Scale was more discriminating at the lower end than most rating scales.

6. Differences in raters were noticeable, with business associates agreeing closer than social acquaintances.

7. Although the traits were all chosen as being desirable, good personalities tended to have certain traits while poor personalities had others.

Since this investigation is primarily an exploration into the field of personality measurement, the findings may suggest an approach for subsequent investigators. The study has not attempted to develop a perfected instrument, but represents experimentation with a new technique for the exploration of personality. The data show that there is promise for a technique that measures personality by the unobtrusive method of comparing traits rather than by comparing an individual with others.

GRAPHS AS A MEANS OF INSTRUCTION IN THE FIRST FOUR GRADES OF THE ELEMENTARY SCHOOL*

GRAPHS are found in increasing numbers in the daily reading matter of the American public. Teaching children how to read graphs has become, therefore, a problem of the elementary school. Most work with graphs begins in the intermediate grades. The purpose of this study was to explore the possibilities of work with graphs in the lower grades and to seek answers to three definite questions: What types of graphs are intelligible to children at the different levels from first through fourth grade? What types of graphs can be understood at the mental levels within each grade? What minimum of instruction is necessary to make these graphs intelligible at the levels studied?

The study was carried on as a classroom experiment employing sixteen classes in five schools. The use of graphs was linked with social studies interests of primary grade children. Teachers carried on with their children informal studies of travel and transportation, communication, illumination, and sources of heat and power.

The graphs used portrayed concepts of quantity and relationship which fitted into the background of child interest created by the classroom discussions, reading, and field trips. They were of six types: the developmental picture chart, unit pictograph, bar graph with figures given, bar on grid, line graph, and circle graph. Two complete sets of graphs were used. The first was presented to each child individually in a combination teaching and testing situation; the second set was used in classroom discussions and formed the basis of a group test of graph reading ability.

FINDINGS

Interest in graphs presenting subject matter which was in line with group interests current in the classrooms was high among both teachers and children. This fact indicates that anything which adds to or enriches a genuine interest of children is in itself of interest to them. There was no appreciable difference between boys and girls in ability to read graphs, and the

*By RUTH G. STRICKLAND, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 745.

correlation between graph reading, intelligence, and mental age was low.

The developmental picture chart and the unit pictograph were found to be suitable for Grade I. The more mature children at this level could read the simple bar graph, but the circle and line graph were too difficult. In Grade II the picture chart and circle graph ranked highest in correct responses, though all the types of charts were possible at this level. For Grades III and IV all the types of charts were found suitable.

Certain types of questions proved more difficult than others on the final test. Simple comparisons and reason questions were answered correctly in Grades I and II, and quantitative data were read from the charts where the unit used represented only one or two cases. Children of Grades III and IV could answer all such questions and, in addition, more difficult questions involving comparisons and reasoning as well as the reading of quantitative data involving larger units than those used on the charts for Grades I and II.

IMPLICATIONS

Certain implications are evident for elementary education. The first of these is that graphs which are designed for children and are associated with their interests can be introduced into the program of the elementary school at an earlier level than is now customary. The social studies interests of children have many possibilities for graphs. This would facilitate a combination of social studies and arithmetic that should add richness to the social studies program as well as growth in understanding and skill in quantitative thinking.

There is an increasing tendency on the part of teachers to make the arithmetic program of the first years concrete work with materials and content that develop vocabulary and concepts as a basis for later contact with abstract numbers and fundamental processes. It is quite possible that many of the quantitative concepts which should be taught in these early years can be strengthened through the use of graphs if these are suited to the interests and abilities of children.

Further research is necessary to adapt graphs to the different levels, to indicate best methods of using graphs, and to determine their value and the extent of the learning that accrues from their use.

THE CONTRIBUTION OF GENERALIZATION TO THE LEARNING OF THE ADDITION FACTS*

DURING recent years a psychology of arithmetic teaching based upon the theory that children should be given at the outset the kind of responses we expect them to have eventually and then drilled on these responses has been questioned. In the place of such practice, proposals have been made to base arithmetical learning upon meaning and understanding. Under this plan children would approach the skills and abilities of arithmetic through the comprehension of number meanings and through insight into the relationships which are inherent in the number system.

The present study represents a comparison of the two theories of arithmetical learning as applied to the teaching of the addition facts. Its purpose was to determine whether the addition facts are learned better by children who engage in repetitive

*By C. L. THIELE, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 763.

drill than by children who discover for themselves useful number generalizations among groups of addition combinations, and then master the combinations by continued application of these relationships or generalizations. For example, children learning by the "Generalization Method" discovered relationships between adding to 10 and adding to 9, between addition doubles and combinations in which one addend is one more or less than the other, and between the combinations which involved adding 1, adding 2, and adding 0. In this study the method of repetitive drill is designated as the "drill method" and that emphasizing discovery and use of number relationships as the "generalization method."

The equivalent-group method was adopted as the basic method of the study. Nine beginning second-grade classes in typical schools of Detroit, Michigan, were selected for each experimental group. The period of the experiment was nineteen weeks and the length of each daily class period was twenty minutes.

Data were secured from two sources: a timed test of four seconds each on the 100 addition facts was administered at the beginning and also at the close of the experiment; and a "transfer of training" test was given at the end of the experiment to test the ability of the pupils to transfer their knowledge of single digit addition facts to problems involving two digits.

In each teaching procedure the experimental factor was the manner in which pupils mastered the addition facts. Both groups used concrete materials in the development of each set of new combinations, engaged in dramatization activities, prepared word statements for addition facts, and solved word problems. However, in the performance of these activities and in working practice exercises, the methods by which the combinations were mastered by each group differed.

Complete records were obtained for 242 pupils taught by the generalization method and for 270 pupils taught by the drill method.

The growth of the pupils in the mastery of the addition facts provided the chief measure in the comparison of the relative effectiveness of the two methods of learning the addition facts. The mean growth of the generalization method pupils was 16.06 greater than that of the pupils taught by the drill method. The standard deviation of the difference was 1.96, which is 8.11 times the SDD, indicating a practical certainty that the true difference is above zero. Every comparison between groups having the same intelligence letter rating was in favor of the generalization method. When gains were computed for pupils of each experimental group on the basis of initial scores, without regard for intelligence letter ratings, the differences were also in every case in favor of the generalization method.

Further examination of the data indicated little difference between the two experimental groups in their achievement with respect to the 58 easier addition facts (such as the 1's facts, the 2's facts, the zero facts, and the doubles), but on the 42 harder addition facts the superiority of the generalization group over the drill group was marked. On the 58 easier facts the mean difference in growth was 7.08 combinations but on the 42 harder combinations the difference was one of 23.82 combinations in favor of the generalization method pupils. Obviously the superiority of one method over the other was in the learning of the harder addition facts.

Should further experimentation corroborate these findings, the idea of making discovery and application of the knowledge of number relationships the guiding principle in the teaching of all arithmetic may find wide application. Although this study dealt entirely with the application of that principle to the teaching of the basic addition facts, the author has reason to believe, through preliminary experimentation, that the same procedure can be applied to the teaching of the basic number facts of subtraction, multiplication, and division. Furthermore, he sees no valid rea-

son for supposing that this plan cannot be applied to the teaching of the other facts and processes of arithmetic. This belief is predicated on the conception that arithmetic is a closely knit system of understandable ideas, principles, and processes, and the function of instruction in arithmetic is to teach the nature and uses of the number system and to help the learner apply quantitative procedures in the achievement of his purposes. It is conceivable that such a program would greatly change the grade placement of topics, would demand a larger supply of concrete materials than is now found in the average classroom, would require new measures of arithmetical learning, would raise new problems of individual differences, would require a different type of arithmetic textbooks from those now in use, would change methods of teaching arithmetic, and above all, would demand a new type of teacher training.

College Notes

INSTITUTE OF EDUCATIONAL RESEARCH

Division of Field Studies

The final report of the St. Louis school survey was officially delivered to the St. Louis Board of Education on April 24. Professors George D. Strayer, N. L. Engelhardt, John K. Norton, Hollis L. Caswell, Willard S. Elsbree, and W. B. Featherstone and Dr. H. H. Linn presented the several sections of the report to the Board of Education at an all-day meeting. During the ensuing week these members of the survey staff addressed the professional staff of the school system and many groups of citizens. A total of at least fifteen thousand persons was reached.

The report was presented to the Board of Education in two forms: a long and detailed account of the methods employed, the findings and recommendations, covering more than two thousand pages; and a condensed report which was written primarily for laymen and which will be printed and widely distributed.

One of the major recommendations, having to do with the reorganization of the administrative staff of the school system, has been embodied in a bill and introduced into the Missouri legislature. The survey staff believes such reorganization is essential to efficiency and economy.

Among its many other recommendations, the survey staff has indicated the possibility of saving $500,000 a year in the operation of the school system without in any way interfering with the program as currently conducted.

DIVISION I FOUNDATIONS OF EDUCATION

Social and Philosophical Foundations

On April 4 at the Consumer Education Conference, Stephens College, Columbia, Mo., Professor Harold F. Clark led a panel discussion on "How Is Consumer Education Related to Other Subjects, for example, Home Economics, Business Economics, General Economics?"

Psychological and Biological Foundations

Professor Arthur I. Gates spoke before the Teachers Association of Elizabeth, N. J., March 28 on the topic "Problems and Practices in Remedial Reading."

Professor Gates is serving as chairman of a committee to investigate the teaching of reading to the visually handicapped pupils in New York City. Other members of the committee are: Dr. Robert Rock, Dr. Ben Wood, Dr. Arthur Traxler, Dr. Paul T. McAlpine, Mr. Harold W. McCormick, Mrs. Mary Bartlett, Miss Mary Lewis, and Miss Frances Mitchell. Extensive work in connection with the investigation is being done by Miss Mitchell of San Francisco, Miss Marion Kirk of Beechwood Park, Pa., and Mrs. Eloise Cason of New York City, who are at present taking advanced work in Teachers College. The investigation is one of a series of studies of the education of handicapped pupils in New York City

which is being conducted at the request of Mr. James Marshall, president of the Board of Education. Mr. McCormick, a former student of Teachers College, is Mr. Marshall's representative in general charge of the several committees.

Professor George W. Hartmann addressed the faculty of the social science department at the University of Pittsburgh in the Cathedral of Learning on March 27. His subject was "Value as the Unifying Concept in the Field of Human and Social Relations."

DIVISION II
ORGANIZATION AND ADMINISTRATION OF EDUCATION

Administration of Teachers Colleges and Normal Schools

Professor E. S. Evenden has been asked to serve as chairman of an advisory committee to work with a special committee of the College Physical Education Association. The advisory committee is composed of specialists in various phases of the general problem of educating teachers and is intended to assist the special committee on physical education in relating its work to the other large areas in higher education and in the professional preparation of teachers.

As one of the vice-presidents of the Eastern States Association of Professional Schools for Teachers, Professor Evenden attended the meetings of the Association held at the Hotel Pennsylvania, New York City, March 30 to April 1, and participated in a conference discussion dealing with the preparation of the English teacher of tomorrow.

On March 15 the Teacher Education Club held its annual dinner meeting at the Men's Faculty Club in honor of Professor W. C. Bagley's sixty-fifth birthday.

At a dinner meeting of the Superintendents' Conference held in Boston, Mass., April 20, Professor Bagley spoke on the topic "The University School—Yesterday, Today, and Tomorrow"; on April 21 he addressed the Conference on "The Significance of the Essentialist Movement in Educational Theory."

Professor Bagley spent several days recently visiting colleges in West Virginia. On April 25 he addressed the Delta Gamma Chapter, Kappa Delta Pi, and the student body of Concord State Teachers College at Athens; on April 26 he addressed a dinner meeting of the Psi Chapter, Kappa Delta Pi, at Marshall College, Huntington, on "Present-Day Tendencies in American Education"; and on April 27, a chapel meeting of the student body at Huntington on "The Place of the Master Teacher in the Modern World." He talked to the student body of the State Teachers College at Fairmont and addressed a dinner meeting of the Beta Omega Chapter, Kappa Delta Pi, on April 28.

Administration of Public School Systems

On April 14 Professor Paul R. Mort addressed a state-wide conference on School District Reorganization at Syracuse University on the subject "Local Finance in New York State." On April 15 he spoke before the annual convention of the Parent-Teacher Association held at Delmar, Del., on the topic "Delaware Forges to the Front."

The Administration Club met at the home of Professor and Mrs. George D. Strayer in Riverdale, N. Y., on April 15. Professor William C. Bagley spoke on the subject "Changing Conceptions in Teacher Education in the United States." A discussion period and social hour followed.

During March and April Professor N. L.

Engelhardt visited schools in the Republics of Venezuela, Colombia, and Panama. On March 29 and 30 he addressed the teachers of Balboa and Cristobal, C. Z.

The Fourth International Congress on Open-Air Education, which will meet in Rome in 1940, will issue a yearbook on the modern school plant. Among the articles in this yearbook will be one by Professor N. L. Engelhardt on "Planning the Modern School Plant in the United States of America." French, German, and Italian translations to accompany this article have been prepared by Dr. Daniel P. Girard, assistant professor of French at Teachers College, Columbia University, Dr. Gottlieb A. Betz, assistant professor of German at Columbia University, and Dr. Peter M. Riccio, assistant professor of Italian at Barnard College, respectively.

Administration of Secondary Schools

At the Cleveland meeting of the National Education Association, Kappa Delta Pi elected Professor Thomas H. Briggs to membership in its Laureate Chapter. There are thirty-two members of this honorary group.

The Implementation Committee of the Department of Secondary School Principals, of which Professor Will French is chairman, met in Chicago March 31 and April 1. The committee considered plans for a handbook designed to help schools meet the needs of those for whom the present high school curriculum is inadequate. Mr. B. L. Dodds, a graduate student in Teachers College, is in charge of the preparation of the handbook.

Professor E. K. Fretwell spoke on April 19 to the high school assembly of the Clifford J. Scott High School, East Orange, N. J., and met in conference the members of the student council.

"Who Goes to College?" is the title of an article by John Beery, graduate student in Secondary Education, published in the January issue of *Educational Administration and Supervision.*

Professor Briggs's *Improving Instruction,* which was published last May, is listed by the American Library Association as one of the "Sixty Educational Books of 1938."

Professor Fretwell was the speaker on the Fathers' Night program of the Parent-Teacher Association at the junior high school, Locust Valley, N. Y., on March 7. He addressed the Parent-Teacher Association of Daniel Webster School, New Rochelle, N. Y., on April 24.

The Secondary Education Club held its spring luncheon meeting on April 1 in the private dining room of the Union Theological Seminary. The speaker was Professor Harry J. Carman of the History Department, Columbia University, whose subject was "Changing America and Secondary Education."

Professor Briggs addressed the West Virginia Association of Secondary School Principals on April 14 at Morgantown on "A Program of Co-operative Professional Activity" and "The Liberal Education of the Teacher."

At the invitation of Dean T. H. Shelby and Mr. Roy Bedichek, who are in charge of extension activities, Professor Fretwell spent May 5 and 6 at the University of Texas, Austin, Tex., in conference with the high school principals of the state discussing the development of extracurricular activities in the high schools of Texas.

Professor Fretwell will spend the week of June 12 lecturing at the Agricultural and Mechanical College, Stillwater, Okla., and the week of June 19 at the University of Oklahoma at Norman.

On March 10 at the Recreation Conference held at the Massachusetts State College, Amherst, Mass., a new type of panel discussion, organized in the fashion of a New England town meeting, was initiated. The topic was "Planning Community Recreation for the Town of Progress." Professor Fretwell acted as moderator.

Professor Fretwell spent March 16 with Howard Dare White, assistant commissioner in charge of secondary education for New Jersey, at the conference of the New Jersey Secondary School Principals. In the evening, at the invitation of Mr. Albert M. Bean, superintendent of schools at Camden, Professor Fretwell addressed a meeting of the teachers in Camden County.

At the fifteenth annual Junior High School Conference, held at New York University March 17 and 18, Professor Fretwell spoke on "The Best Practices I Have Observed in Junior High Schools."

Administration of Rural Education

A new Committee on Rural Education, officially appointed by the American Country Life Association but financially aided by the Farm Foundation, Chicago, has recently been set up. The first meetings were held in Chicago March 3 and 4 and April 27 to 29. The general purpose of this committee is to study ways and means of improving both the quality and the quantity of rural education—elementary, secondary, and adult. It will emphasize the cultural values of life on the land and give special attention to rural elementary education in its curriculum, supervisory, teacher-training, and community aspects. The Mississippi Valley will be its chief area of concentration, and attention will be fixed primarily upon the one hundred thousand one-teacher rural schools of this region. The committee will work further on a basis of constructive demonstration and experimentation in the functional practices of rural education, rather than in the field of investigation and research. It will seek to co-operate with all other agencies and individuals active in the rural field. The membership of this new committee is as follows: Dr. Roscoe Pulliam, president, Southern Normal University, Carbondale, Ill., chairman; Professor Mabel Carney, Teachers College; Dr. Floyd W. Reeves, University of Chicago; Dr. Leo M. Favrot, General Education Board, Baton Rouge, La.; Miss Agnes Samuelson, State Teachers Association, Des Moines, Iowa; Dr. Maurice L. Seay, University of Kentucky, Lexington; Dr. J. F. Waddell, State Department of Education, Madison, Wis.; Dr. Lowry Nelson, professor of rural sociology, University of Minnesota, Minneapolis; and Mrs. Raymond Sayre, State Farm Bureau, Ackworth, Iowa. Miss Iman E. Schatzmann is executive secretary of the committee, with offices at 600 South Michigan Avenue, Chicago.

Professor Carney has spent considerable time in Chicago and vicinity during the Spring Session. She filled speaking engagements and made other professional contacts at Springfield and Carbondale, Ill.; at the University of Ohio, Columbus; and at the state meeting of Rural Normal School Principals in Wisconsin Rapids, Wis. She also presided at the Rural Section meeting of the Eastern States Association of Professional Schools for Teachers in New York City, April 1, at which Dr. Lynn Brown of Cortland, N. Y., was elected chairman for the ensuing year and Miss Cora J. Russell, Danbury, Conn., was reappointed as secretary.

The Vacation Unit, Teachers' Lesson Unit Series, Number 101, by Eula Atkinson Johnston and Anna Leah Carpenter, with an introduction by Professor Carney, has been published recently by the Bureau of Publications of Teachers College. This unit has become part of the curriculum and de-

veloped into a co-operative experience in grades one to six of the schools of Hamilton County, Tenn.

Dr. Kate V. Wofford, director of Rural Education, State Teachers College, Buffalo, N. Y., will substitute for Professor Fannie W. Dunn during the coming Summer Session. The usual courses in rural school curriculum and supervision will be provided, though integrated with the offerings in elementary education rather than as separate courses as heretofore.

The spring field trip for students in Rural Education was limited to New York State this year, including the State Teachers College at Buffalo and the State Normal Schools at Geneseo and Oneonta; Cornell University; the Gorham Centralized School; Bethlehem Central Schools, Delmar, N. Y.; and the State Department of Education in Albany. A whole week was given to these visits, which proved so popular and valuable that more direct contacts of this type would seem desirable.

The Negro Education Club, with the assistance of its faculty adviser, Professor Mabel Carney, presented a special problem on "Negro Contributions to American Culture" before the Graduate Club on April 2. Miss Augusta Savage, noted Negro sculptor and World's Fair artist, was the speaker on this occasion, illustrating her talk with the bust she has recently modeled of the late James Weldon Johnson and a small replica of her magnificent piece "Lift Every Voice and Sing," which she has just completed for the Fair grounds. Miss Bonita Slaughter, student in Music Education, was soloist for the evening, explaining and singing spirituals and selections by Negro composers.

The Doctor's dissertation of Mrs. Nettie Norris Leasure, Manchester College, North Manchester, Ind., (privately printed) has recently come from the press and copies may now be ordered direct from the author or through the Rural Education Office, Teachers College, Columbia University. This study deals with *Education for the Ba Kongo Village* and constitutes a most helpful and modernized guide for the direction of rural village schools in Africa and other retarded lands. Like the study by Dr. A. D. Helser published in 1934 (Fleming H. Revell Company), it illustrates for American students the practical application of general educational principles to a specific social situation.

DIVISION III
GUIDANCE

Student Personnel Administration

The faculty teaching specialized courses in Student Personnel Administration for the coming Summer Session will include, in addition to the regular staff, Dr. Francis F. Bradshaw, dean of students, University of North Carolina, Chapel Hill, who will give a course dealing with problems of personnel at the college level of instruction; Dr. Miriam Van Waters, superintendent, Reformatory for Women, Framingham, Mass., who will give courses on persistent problems of youth and the prevention of delinquency; and Dr. Chase Going Woodhouse, director, Institute of Women's Professional Relations, New London, Conn., who will give a course dealing with contemporary problems of women.

Professor Sarah M. Sturtevant will give the commencement address at the Samaritan Hospital School of Nursing, Troy, N. Y., on May 24.

Professor Ruth Strang served as chairman of the meeting of the Health Section of the New York Society for the Experimental Study of Education held on March 31 at Teachers College. Miss Alfhild Axelson, school nurse at Lincoln School, spoke on

the topic "Excursions and Books as Avenues of Learning," and Miss Loretta Ryan, assistant director of health education in the New York City schools, led the discussion on this subject. The exhibit of health education books was prepared by Miss M. Rebecca Lingenfelter, Miss Eleanor M. Dye, and Professor Mary E. Chayer and some of her students.

On April 28 Professor Strang spoke at the meeting of the Michigan Deans and Counselors, at the University of Michigan, taking as her topic "Ways of 'Learning' Students."

The Student Personnel Administration Club has presented on its recent programs Dr. Harry Bone, who told about the work of a consulting psychologist; Dr. G. F. Alsop, of Barnard College, who spoke on "Mental Hygiene and the College Student"; and Mrs. Juliana Haskell, adviser to women graduate students of Columbia University, who gave a talk on *Dorothea*.

Dr. Hilda Threlkeld (Ph.D. 1935), dean of women at the University of Louisville, Ky., will teach courses in student personnel at Pennsylvania State College during the coming summer. Dr. Threlkeld is at present chairman of the Research Committee of the National Association of Deans of Women.

Guidance and Personnel

On April 28 a large number of alumni joined the students in Guidance and Personnel for the Twelfth Annual Vocational Guidance Follies. After a dinner at the Men's Faculty Club, a skit burlesquing vocational guidance and prominent persons was presented. The committee in charge was composed of Miss Louise Williams, general chairman; Mr. R. D. Blau, director; Miss Adelaide Baethke, music; Misses Betty Bailey and Clara Hackett, publicity and programs; Miss Marjorie Whitney, secretary; Miss Molly Smith, costumes; Mr. Kenneth Ashcraft, properties; Miss Thyrza Perry, decorations; and Miss Laura Church, Mr. Henry B. McDaniel, Mr. David Brewer, and Mr. Clarence Romrell.

DIVISION IV
INSTRUCTION

Curriculum and Teaching

On March 31 Professor H. L. Caswell addressed the Southern Maryland Regional Conference at the University of Maryland. His topic was "Developing a Curriculum to Perpetuate and Improve Democracy."

Professor Caswell attended a directors' conference of the Committee on Workshops and Field Service of the Progressive Education Association in Chicago April 21 and 22.

On March 3 Professor L. Thomas Hopkins addressed the dinner meeting of the Elementary School Workers Group. His topic was "Education for Living in a Democracy." At the Coffee Hour meeting of the Elementary Club on March 9, Professor Hopkins presented some of the highlights of the American Association of School Administrators convention in Cleveland.

On April 1 Professor W. B. Featherstone spoke to the Science Section of the New York Society for the Experimental Study of Education on "Honor Schools for Gifted Pupils." The discussion dealt with problems and difficulties that will be encountered and errors that should be avoided in implementing the policy of the New York City Board of Education requiring the establishment of special high schools for exceptionally able pupils interested in science.

Professor Ernest G. Osborne spoke before the Parent-Teacher Association of the New Canaan Country Day School, Darien, Conn.,

March 10 on the topic "Are We Educating Our Children for Democracy?" and before a Parent-Teacher Association in Garden City, N. Y., March 27, on the topic "Educating for Responsibility."

At a joint meeting of the Children's Welfare Federation and the Jewish Vacation Association, Inc., held in New York City recently Professor Osborne led a panel discussion on "How Can Camp Broaden the Child's Horizon?"

Professor Osborne is the sponsor of a WPA project which is developing a series of simplified pamphlets designed to assist parents in rearing their children.

Professor Florence B. Stratemeyer addressed the faculty of the State Teachers College at Slippery Rock, Pa., recently on "Trends in Teacher Education." On April 14 she spoke to the Department of Elementary Education of the Kentucky Education Association at Louisville, and also addressed the Kentucky Association of Supervisors of Student Teaching and the Kentucky Association of Deans of Women.

During the week of April 24 Professor Stratemeyer worked with several teachers colleges in Alabama on curriculum problems and problems of student teaching.

Professor Fannie W. Dunn was the principal speaker at two meetings during Schoolmen's Week in Philadelphia. Her topics were complementary: in the morning she spoke on "Capitalizing the Opportunities Offered in a Consolidated School," and in the afternoon her theme was "How to Organize a Program of Instruction in the One-Room Rural School to Meet Modern Conditions."

During the week of April 17 a group of students in Teacher Education visited schools and teachers colleges along the Atlantic Coast. Among the schools visited were: Maryland State Teachers College, Towson; Miner Teachers College, Washington, D. C.; James Ormond Wilson Teachers College, Washington, D. C.; William and Mary College, Williamsburg, Va.; and Hampton Institute, Hampton, Va.

Professor Thomas Alexander visited schools and teachers colleges in North Carolina, Alabama, and Florida recently. He spent a day or two in Canton, N. C., at the Springdale School, of which he is educational adviser. On April 10 he spoke to the Calhoun County Teachers Association in Anniston, Ala.

The Lower Primary Club and the staff of Nursery School and Kindergarten-First Grade Education entertained the teachers and supervisors of the Federal Nursery Schools of New York City at a tea on March 21. A discussion of the study of the five Federal Nursery Schools made by the students and staff followed a social hour. Miss E. Mae Raymond, Miss Mary V. Gutteridge, and Professor Mary M. Reed led the discussion. The Federal Nursery School group asked for a continuation of the discussion at their next regular meeting.

The annual International Dinner of the Lower Primary Club was held at the Men's Faculty Club on April 30. Miss Raymond gave a welcome to the alumnae, Miss Gutteridge introduced the foreign students, and Professor Reed gave a toast to the International Dinner's tenth birthday and reviewed the events of the first dinner in 1929. The current international scene was discussed by Mrs. Irma Labastille, who dealt with "Our Latin American Policy" and by Dr. Pennington Haile, assistant director of the League of Nations Association. The dinner closed with a discussion of "How Education Strengthens World Fellowship" by Professor George Counts.

The report of the study on kindergarten education in Savannah, Ga., made by Professor Reed last winter, will be used as a

basis for a panel discussion in Savannah following the Association for Childhood Education conference in Atlanta, Ga., April 10 to 14.

Social Science

Professor Arthur E. Bestor, Jr., addressed the Henry Johnson Club March 25. His subject was "The Utopian Impulse."

Natural Sciences

Professor Gerald S. Craig spoke at the meeting of the Intermediate and Science Sections of the Florida Education Association at Tampa on March 17 and at a conference at Schoolmen's Week, Philadelphia, on March 23. On April 4 and 5 he addressed the Principals of Elementary Schools, General Supervisors of Public Education, and Superintendents of Rural Education of the State of Massachusetts at their eleventh annual conference at Amherst, Mass. The topics discussed by Professor Craig were "The Contribution of Science to the Method of the Classroom" and "Changing Concepts in the Teaching of the Content Areas."

Professor Herbert J. Arnold conducted a field trip for the Torrey Botanical Club in the Botanical Gardens of Bronx Park, N. Y., on March 19, to illustrate the "Story of the Great Ice Age in North America."

English

The Annual Spring Dinner of the staff and students of the English department was held on May 4 at the Men's Faculty Club. Professor Joseph Wood Krutch was the guest speaker. Emeritus Professor Franklin T. Baker was among the guests.

Professor Lennox Grey will be a visiting professor at the Colorado State Teachers College, Greeley, during two weeks of the June session.

The Eastern Summer Workshop of the Progressive Education Association will be held at Sarah Lawrence College, Bronxville, N. Y., this summer under the direction of members of the Teachers College staff. Professor Grey and Dr. Edna Hays will have charge of the Humanities section. Inquiries concerning admission to this group should be addressed to Professor Grey.

Speech

Dr. William H. Blake addressed the Graduate Club of Teachers College on March 8, taking as his topic "Falling for Relaxation." On April 3 Dr. Blake spoke to the Parent-Teacher Association of Henry Barnard School, New Rochelle, N. Y., on "Keeping Pace with the Child."

Mr. Robert R. Parsons talked to the Parent-Teacher Association of the Fairmount School, West Orange, N. J., on April 5. The subject of his talk was "Home and School Co-operation in Speech Education for the Elementary School Child."

Foreign Languages

Professor W. L. Carr read a paper on "Vocabulary Burden in College Latin" at the thirty-second annual meeting of the Classical Association of the Atlantic States, which was held in Philadelphia on April 28 and 29.

Music and Music Education

The Modern Band Training Series by Professors N. L. Church and P. W. Dykema has just been published. Like their Modern Orchestra Training Series it provides for simultaneous performance by advanced players and beginners. In addition

to books for the individual instruments, there are complete conductor's scores and a manual of directions.

Twelve members of the Music Education staff attended the meeting of the Eastern Music Educators Conference in Boston in March, and several of the group appeared on the program. Professor Lilla Belle Pitts also appeared on the program of the Southern Conference in Louisville, and of the Northwestern Conference in Detroit.

Professor Dykema spoke before the Eastern Shore Maryland Teachers Association on April 1, appearing at both the general session and the special section of Secondary School Teachers.

Professor Raymond Burrows spoke at a dinner at Syracuse University on March 24. His topic was "Significant Opportunities for Men in Music." Professor Burrows has been invited to adjudicate the intrafraternity contest at Bucknell University, Lewisburg, Pa.

Fine and Industrial Arts

Professor Sallie B. Tannahill attended the Cleveland meetings of the American Association of School Administrators, and the meetings of the Art Section of the National Education Association, of which she is a director.

Professor Belle Boas participated in an art meeting held by the Eastern States Association on April 1 at the Hotel Pennsylvania, New York City. She also took part in a discussion at the Eastern Arts Association meeting on April 28.

This year special interest attaches to the murals on the first floor of Russell Hall because of the World Congress on Education for Democracy which will be held at Teachers College in August and because of the World's Fair. In anticipation of visitors from many other countries, mural maps representing New York, the United States, and the world were chosen as a theme. Students in Fine Arts painted these murals under the direction of Professor Elise E. Ruffini.

Visiting Professor Arthur Lismer gave a talk on "Education through Art" at the Eastern States Association conference at the Hotel Pennsylvania on April 1. He talked to the teachers of the Rutherford, N. J., public schools April 4 on "Creative Education," and to the Ontario Educational Association conference, Toronto, Can., April 12 on "The Child's Contribution to Art Education."

Miss Grace V. Bliss has been given leave of absence for the academic year 1939-1940. In 1940 she will retire after thirty-three years as a member of the Fine Arts staff.

Professor Fred Strickler attended the convention of the Southeastern Arts Association at Birmingham, Ala., March 9 to 11, and participated in panel discussions of "The Arts in the Elementary and Teacher Training Schools," "The Arts in the Secondary School," and "The Arts in the College and University." He also addressed one of the general meetings on the subject of "Appreciation."

On March 31 and April 1 Professor Strickler appeared on the program of the Indiana Industrial Education Association at South Bend, discussing "Contributions of the Industrial Subjects to General Education," and "The Problem of Skill in Industrial Education."

Household Arts and Sciences

Professor Benjamin R. Andrews took part in the Consumer Education Institute at Stephens College, Columbia, Mo., April 3 to 5, presenting a paper entitled "Books on Consumption."

Professor Andrews contributed an article on "The Consumer in the Schools" to a recent number of *Retailing*, the professional magazine for store executives.

Professor Earl C. McCracken and Mrs. McCracken were dinner guests at the practice house of the home management group of New York University on April 1.

Vocational Education

On March 17 Professor Edwin A. Lee addressed the New Jersey Vocational and Arts Association in Asbury Park. The topic of his address was "The Place of Fine Arts, Industrial Arts, and Vocational Education in a Comprehensive Educational Program."

At a meeting of the New York Adult Education Council, Inc., held at the Hotel Astor on March 23, Professor Lee spoke on "Education for Grown-Ups: A Summary of the Adult Education Report to the Regents' Inquiry."

Commercial Education

Professor Hamden L. Forkner spoke at the general session of the Eastern Commercial Teachers Association on April 7, taking as his topic "Improvement of Teaching in Business Subjects." Professor Forkner is one of the contributors to the 1939 yearbook of this association.

An article by Professor Forkner entitled "The Report of the President's Advisory Committee on Education and Its Relation to Business Education" appeared in the March issue of *Modern Business Education*, a publication of the Southern Business Education Association.

Professor Forkner spoke before the Tri-State Commercial Education Association meeting in Pittsburgh on April 15 on "The Responsibility of Business Education Toward General Education." This association is composed of the business teachers in high schools, colleges, and teacher-training institutions in Ohio, West Virginia, and Pennsylvania.

A revised edition of *Stuart Typing* by Mrs. Esta Ross Stuart has recently been published by D. C. Heath and Company.

Miss Thelma M. Potter served on the publicity committee for the Eastern Commercial Teachers Association meeting, which was held in New York City April 6 to 8. On April 8 a Teachers College Commercial Education Alumni Breakfast was held at the Hotel Pennsylvania. The guest speaker was Dr. William R. Odell, formerly a member of Teachers College faculty.

The Commercial Education department reports an increase of 48 per cent in enrollment over that of the Spring Session last year.

On a recent New York City teacher's examination in stenography, out of the first five places students from the teacher-training classes in Commercial Education ranked first, second, and fifth.

Physical Education

On March 17 Professor F. W. Maroney addressed the health and physical education teachers of New Hampshire on the topic "The Place of Athletics in General Education." On March 24 he addressed the Massachusetts State Physical Education Association at Springfield, taking as his subject "Modern Trends in Health and Physical Education."

Professor William L. Hughes spoke on the old and new hygiene teaching in the in-service health instruction course of the New York City Health Education Teachers Association on April 26.

DIVISION V
NURSING EDUCATION

Professor Isabel M. Stewart attended the symposium on Woman and Contemporary Life held at Duke University, Durham, N. C., March 31 and April 1. She represented the Nursing Education group at this conference. At a luncheon meeting of the North Carolina State Nurses' Association on April 1 Professor Stewart spoke on "Historical Backgrounds of the Present Situation in Nursing Education."

An Alumnae Committee of twenty-five members has been formed to plan for the celebration of the fortieth anniversary of the establishment of courses for graduate nurses at Teachers College. October 13 has been selected as the date for this reunion, which will follow the celebration of the fiftieth anniversary of Teachers College on October 12. Miss Nellie X. Hawkinson, president of the National League of Nursing Education and professor of nursing education at the University of Chicago, is chairman of this committee; Miss Grace Warman, director of the School of Nursing at Mount Sinai Hospital, New York, is treasurer; and Professor Stewart is secretary. A number of activities are planned in connection with the anniversary, including branch conferences of alumnae in several parts of the country. "Leadership in Nursing Education" will be the theme discussed at all these conferences. A study of Nursing Education graduates, covering the period of forty years, is being made and an exhibit showing the development and work in nursing education during this period is being prepared.

EDUCATIONAL DEMONSTRATION AND PUBLIC SERVICE

Horace Mann School

The Parents Association of the Horace Mann Schools held a meeting on April 4 which took the form of a panel program of parents and teachers with Dr. Charles C. Tillinghast acting as chairman. The topic for discussion was "The Horace Mann Schools at Work: Social Living in the Schools." The annual dinner of the Association was held on April 18 at the American Woman's Association Clubhouse. Mr. Arthur "Bugs" Baer, well-known columnist and a Horace Mann parent, presided. Professor Milton C. Del Manzo of Teachers College commented briefly on the possible reorganization of the schools. The Honorable Dorothy Kenyon, recently appointed Justice of the Municipal Court in the City of New York and a Horace Mann alumna, was the guest speaker.

On April 13 Dr. Ina Craig Sartorius spoke before the Parents Study Group on "The Use of Intelligence Tests in the Horace Mann School."

The junior and senior advanced dance groups, under the direction of Miss Ruth Jones, took part in the benefit performance for student refugees at the McMillin Theater, April 13.

Mrs. Emma D. Sheehy spoke at the Henry Barnard School, Providence, R. I., on March 29. The meeting was sponsored by the Association of Childhood Education of Providence and near-by towns. Mrs. Sheehy talked on "Rhythmic Movement for Young Children."

The senior group in the home economics classes, under the direction of Miss Grace Reeves and Mrs. Virginia Curtis, recently worked out a yearly clothing budget suitable for a working girl. It totaled $111.81, or $2.15 a week. Some of the articles were planned for two years' use and the cost was estimated accordingly. The budget has aroused a great deal of interest, and inquiries have come from organizations concerned with this type of problem, from the student in high school, and from the woman who must dress on a small allowance.

Letters have been received from all parts of the United States and from Europe, asking for more detailed information in regard to materials, patterns, and costs.

THE LIBRARY

Miss Ethel M. Feagley has been appointed associate librarian of Teachers College, effective April 1.

The personal library of the late Professor Walter Landé of the University of Berlin has been presented to Teachers College Library by Mrs. Landé. This gift greatly enriches the Library's resources for the study of German educational laws.

Educators who wish to locate the name of an administrator of a specific school or college, to discover whether the school is accredited, to learn the length of the school term, fees, enrollment, and similar information, should consult the March issue of *The Library Consultant Book List* entitled "Educational Directories." Single issues of this publication are available at five cents each; the subscription price is fifty cents for ten issues.

"Pattern Plays," the April issue of *Classroom Literature*, the monthly publication of the School Library Laboratory, is an index to dramatizations of the best-loved stories for children. A check list of the collections of plays which are indexed is included.

THE STUDENT COUNCIL

To extend interest in the possibilities of the educational film and to assist teachers in their selection, the Student Council of Teachers College is sponsoring a weekly evening film program. Emphasis is given to recent releases in order that teachers may become acquainted with the newer material. Represented on these programs are the films of educational film producers, theatrical producers, government and public service agencies, and industrial concerns. Through the assistance of a number of major producers and distributors and through the H. W. Wilson Company, publishers of the *Educational Film Catalog*, the committee in charge, under the chairmanship of Mr. Donald C. Doane, is kept well informed of recent releases.

Each program is followed by a discussion of the potential values and uses of the films. Critical reviews are prepared and sent to co-operating magazines.

Alumni Notes

TEACHERS COLLEGE ALUMNI ASSOCIATION

Officers

President: Dr. F. H. Bair, Superintendent of Schools, Bronxville, N. Y.
First Vice-President: Mr. A. J. Stoddard, Superintendent of Schools, Denver, Colo.
Second Vice-President: Mr. Frederick Archer, Professor of Education, University of Alabama, University, Ala.
Secretary-Treasurer: Mr. Clyde R. Miller, Associate Professor of Education, Teachers College.
Alumni Trustee: Dr. F. H. Bair, Superintendent of Schools, Bronxville, N. Y.
Alumni Office: Teachers College, 525 West 120th Street, New York City.
Address all communications to Clyde R. Miller,
Secretary-Treasurer of Alumni Association, Teachers College, New York City.

Mr. E. I. F. Williams (A.M. 1920) will offer courses at New York State College for Teachers, Albany, again this summer.

Miss Maud E. Hayes (A.M. 1913) has retired from her position as supervisor of homemaking education in Long Beach, Calif., and is now living in Pasadena.

Miss Alva E. Forssell (B.S. 1911) has been appointed principal of Public School No. 45, Staten Island, N. Y.

Dr. Rosalind Cassidy (Ed.D. 1937) is the author of *New Directions in Physical Education for the Adolescent Girl in High School and College—A Guide for Teachers in Co-operative Curriculum Revision,* a book published recently by A. S. Barnes & Company.

Dr. J. B. Sears (Ph.D. 1920), with the assistance of Dr. J. C. Almack and Dr. P. E. Davidson (Ph.D. 1914), has completed a survey of the schools of Stockton, Calif. A report of this survey has been published by the Stockton Board of Education.

Dr. George J. Trueman (Ph.D. 1919), president of Mount Allison University, Sackville, N. B., Can., since 1923, is working with Dr. Fletcher Peacock and Dr. A. S. McFarlane, former students of Teachers College, on a new curriculum for the Province of New Brunswick. Dr. Trueman is chairman of the Common Examining Board of the Maritime Provinces and Newfoundland, and president of the Mental Hygiene Council of New Brunswick.

Miss Louisa Haven Lawton (A.M. 1929), formerly with the Tennessee Valley Authority School, Sheffield, Ala., entered upon her duties as director of the Susan Fenimore Cooper Foundation and the St. Christina School, Cooperstown, N. Y., last September. St. Christina is an Episcopal School for girls of elementary and high school age.

Dr. Edna E. Lamson (Ph.D. 1930) is making a survey of the graduates of the New Jersey State Teachers College, Jersey City, N. J., during the first decade of its existence—1929 to 1939. Dr. Lamson is counselor of Delta Upsilon Chapter of Kappa Delta Pi.

Dr. Mitchell Dreese (Ph.D. 1929), professor of educational psychology at George Washington University, Washington, D.C., has recently been appointed Dean of the Summer Sessions of the University.

Dr. Ray E. Cheney (Ph.D. 1934), as chairman of the Public Relations Committee of the Lake Shore Division of the Illinois Education Association, was responsible for the publication *Finance Trends*, which was issued recently by the Association.

APPOINTMENTS REPORTED BY OFFICE OF PLACEMENT SERVICE*

Avery, Zola V., assistant dietitian, City Hospital, Indianapolis, Ind.

Baldwin, Sara E. (A.M. 1931), instructor in education, State Teachers College, West Chester, Pa.

Berge, Mary B. (A.M. 1937), instructor in home economics, Mount Saint Mary's College, Hooksett, N. H.

Blinks, Ruetta Day (A.M. 1923), head of home economics department, Tennessee College for Women, Murfreesboro, Tenn.

Brinkman, Lillian (A.M. 1930), chief of nutrition service, California State Department of Public Health, San Francisco, Calif.

Brown, Margaret Ruth, teacher of home economics, Little Falls Township Schools, Little Falls, N. J.

Browne, M. Hazel, teacher of clothing, Junior-Senior High School, Nyack, N. Y.

Cate, Ione (B.S. 1938), first grade teacher, Mathew Whaley School, Williamsburg, Va.

Childs, Dorothy M., assistant dietitian, Y.W.C.A. cafeteria, New Haven, Conn.

Childs, Sally B. (B.S. 1938), kindergarten teacher, Fieldston Lower School, New York City.

Christensen, Carol C., assistant home demonstration agent, Union County Extension Service, Elizabeth, N. J.

Cornaby, Floyd (A.M. 1939), teacher of art, Butler High School, Butler, N. J.

Cowart, Elah (A.M. 1933), third grade critic, Winthrop College, Rock Hill, S. C.

Crockett, Almeta Virginia, instructor in vocational home economics, Western University, Quindaro, Kan.

Crouse, F. M. (A.M. 1931), dietitian, Department of Correction, New York City.

Dailey, Agnes M., teacher of physical education, Vernon Davey Junior High School, East Orange, N. J.

Davidson, Harold Gibson, instructor in instrumental music, Ohio Northern University and High School, Ada, Ohio.

Donahue, Terence C., administrative assistant to superintendent, Public Schools, Springfield, Mass.

Donovan, Mary Gertrude O. (A.M. 1936), teacher of general science, Lafayette High School, Brooklyn, N. Y.

Drake, Charles A. (Ph.D. 1932), professor of economics and business administration, and director of Bureau of Instructional Research, West Virginia University, Morgantown, W. Va.

* Any student who is taking or has taken twelve points of work at Teachers College or any graduate of Teachers College may register with the Office of Placement Service. No fee is charged. For information write to the Placement Office for its booklet, *Employment of Teachers and Administrators.*

Duffield, Thomas John (A.M. 1938), teacher of English, Suffern High School, Suffern, N. Y.

Eaton, Ruth M. (A.M. 1936), instructor in foods, Pratt Institute, Brooklyn, N. Y.

Einaugler, Solomon L. (A.M. 1938), instructor in chemistry, New York Institute of Dietetics, New York City.

Elliott, Barbara (A.M. 1938), teacher of art, Elementary Schools, Richmond, Va.

Feeney, Thomas Joseph (A.M. 1938), teacher of English and American History, Sacred Heart High School, Yonkers, N. Y.

Fellenbaum, Fay L. (A.M. 1937), nursery school teacher, Hebrew Shelter Home, Homewood School, Germantown, Pa.

Fenger, Ingrid, dean of girls, High School, Bemidji, Minn.

Gellermann, Mildred Prescott, assistant in admissions, Registrar's Office, University of Washington, Seattle, Wash.

Goldthorpe, J. Harold, research associate, American Council on Education, Washington, D. C.

Goldwasser, Beatrice (A.M. 1937), dietitian, Sydenham Hospital, New York City.

Graves, Hazel Louise (A.M. 1938), home adviser, Home Economics Extension, University of Illinois, Mt. Carmel, Ill.

Harris, Edith H. (B.S. 1919), dietitian, High School, Scarsdale, N. Y.

Harrison, George R. (A.M. 1937), teacher of mathematics and science, High School, Cranford, N. J.

Hartt, Charlotte B. (A.M. 1928), teacher of home economics, Palo Verde Union High School, Blythe, Calif.

Hawkins, Anne (A.M. 1939), dean of home economics department, Allen University, Columbia, S. C.

Hayes, Charles W. (A.M. 1938), teacher of science, Junior High School, Louisville, Ky.

Humphrey, Joe R. (Ed.D. 1938), superintendent of schools, Temple, Tex., beginning September, 1939.

Hurry, Otis B., teacher of mathematics, Dwight School for Boys, New York City.

Johnson, Burt P., principal, Junior-Senior High School, Port Jervis, N. Y.

Kaemmerlen, John T., superintendent of schools, Hudson, N. Y.

Long, Gladys F. (A.M. 1937), dietitian, Sage Memorial Hospital, Ganado, Ariz.

Lucey, Mary K., school nurse, East Public School No. 3, Long Beach, L. I.

Lyle, Ella Mae (A.M. 1938), supervisor of homemaking education, State Department of Education, Nacogdoches, Tex.

McBride, William B. (A.M. 1932), assistant professor of music education, Ohio State University, Columbus, Ohio.

McCullough, Helen E. (A.M. 1920), assistant in home economics research, Oregon State College, Corvallis, Ore.

McDonald, Sarah (A.M. 1938), teacher of art, third grade, Belcher High School, Belcher, La.

McGinnis, Fayola, teacher of commercial subjects, Lincoln School, Buenos Aires, Argentina.

Maclaury, Ella M. (A.M. 1937), ninth grade supervisor, Van den Berg School of Training, State Normal School, New Paltz, N. Y.

Messe, Ruth, bacteriologist, Harlem Hospital, New York City.

Monroe, Eloise, assistant professor of clothing and textiles, Northeastern Teachers College, Tahlequah, Okla.

Monroe, Madeline E. (A.M. 1937), teacher of home economics, Junior-Senior High School, Milford, Conn.

Muse, Lida (A.M. 1928), head of home economics department, Elon College, Elon College, N. C.

Nelson, Ida Lou (A.M. 1930), George Deen Home Making Program, District of Columbia, and home economics teacher, Anacostia High School, Washington, D. C.

Nieboer, Adrian, teacher of social studies, Public School, Pentwater, Mich.

Niles, Donna I. (A.M. 1938), instructor in physical education, Northwestern University, Evanston, Ill.

O'Reilly, Winifred, nursery school and kindergarten teacher, McMahon Memorial Shelter, New York City.

Paas, Maurine V. (A.M. 1937), director of religious education, First Presbyterian Church, Ponca City, Okla.

Packwood, Florence, teacher of junior high school English, Milford Special District, Milford, Del.

Palmer, Josephine S. (B.S. 1938), second grade teacher, King Street School, Chappaqua, N. Y.

Parry, Helen (B.S. 1935), teacher of mathematics and science, George O. Robinson School, San Juan, Puerto Rico.

Penn, Ellen, instructor in home economics, Stephens College, Columbia, Mo.

Perlman, Henrietta, county nurse, Demonstration Program, Illinois State Department of Public Health, Springfield, Ill.

Perry, Calvin E. (A.M. 1936), teacher of mathematics, Santa Rosa High School, Santa Rosa, Calif.

Peterson, Ruth (A.M. 1936), head of clothing department and instructor in art, Weber College, Ogden, Utah.

Pitt, Anna Bradley, teacher of science and mathematics, Rosemary Hall, Rock Ridge, Greenwich, Conn.

Polster, Francis X, Jr., teacher of mathematics and social sciences, Florida Preparatory School, Daytona Beach, Fla.

Radell, Inez Eleanor (A.M. 1929), professor of home economics, College of St. Elizabeth, Convent, N. J.

Redmond, Blanid (A.M. 1939), instructor in mathematics, Winona State Teachers College, Winona, Minn.

Ross, Grace (A.M. 1931), director of women's dormitories, Kent State University, Kent, Ohio.

Sanders, A. Pauline (M.S. 1926), director of home economics department, Indiana State Teachers College, Indiana, Pa.

Sanford, Frances A. (A.M. 1932), director of home economics, City Schools, Elmira, N. Y.

Sides, Leola Cox (M.S. 1932), county home demonstration agent, Extension Service, Athens, Ala.

Simpson, Ruby, principal, Memorial College of Household Arts and Sciences, Sydney, Australia.

Smith, Grace May, supervising matron and dietitian, State Agricultural and Industrial School, Industry, N. Y.

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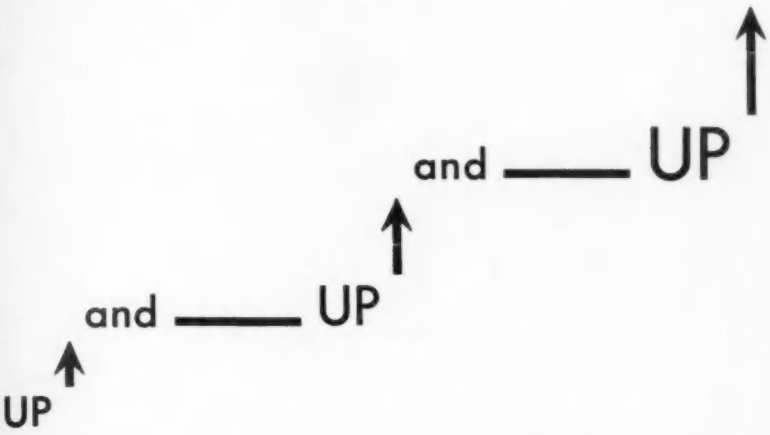

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